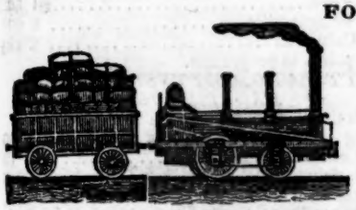
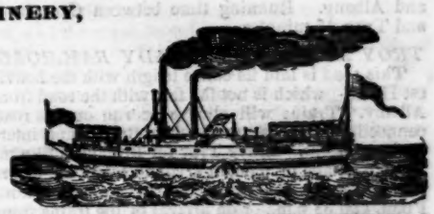
AMERICAN RAILROAD JOURNAL,

AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY, AND MINES.



ESTABLISHED 1831.



PUBLISHED WEEKLY, AT No. 23 CHAMBERS STREET, NEW YORK, AT FIVE DOLLARS PER ANNUM.

SECOND QUARTO SERIES, VOL. II., No. 45.] SATURDAY, NOVEMBER 7, 1846. [WHOLE No. 542, VOL. XIX.

BOSTON AND PROVIDENCE RAILROAD. Passenger Notice. Summer Arrangement. On and after Monday, April 6, 1846, the Passenger Trains will run as follows:

For New York—Night Line, via Stonington. Leaves Boston every day, but Sunday, at 5 p.m.

Accommodation Trains, leave Boston at 7½ a.m. and 4 p.m., and Providence at 8 a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m. 12½ m., 3½ p.m., and 6½ p.m. Leave Dedham at 7 a.m. and 9½ a.m. and 2½ and 5½ p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7·20 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.

31 1y W. RAYMOND LEE, *Sup't.*

BRANCH RAILROAD and STAGES CONnecting with the Boston and Providence Railroad.

Stages connect with the Accommodation trains at the Foxboro' Station, to and from Woonsocket. At the Seekonk Station, to and from Lonsdale, R. I. via Pawtucket. At the Sharon Station, to and from Walpole, Mass. And at Dedham Village Station, to and from Medford, via Medway, Mass. At Providence, to and from Bristol, via Warren, R. I.—Taunton, New Bedford and Fall River cars run in connection with the accommodation trains.

NORWICH AND WORCESTER RAILROAD. Summer Arrangement, commencing Monday, April 6, 1846.

Accommodation Trains, daily, except Sunday. Leave Norwich, at 6 a.m., and 4½ p.m. Leave Worcester, at 10 a.m., and 4½ p.m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 1½ p.m. train from Boston.

New York Train via Long Island Railroad:

Leave Allyn's Point for Boston, about 1 p.m., daily, except Sunday.

Leave Worcester for New York, about 10 a.m., stopping at Webster, Danielsonville, and Norwich.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 4½ p.m., daily, except Sunday, stopping at Webster, Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜

32 1y J W. STOWELL, Sup't.

BOSTON AND MAINE RAILROAD. Upper Route, Boston to Portland via, Reading, Andover, Haverhill, Exeter, Dover, Great Falls, South & North Berwick, Wells, Kennebunk and Saco.

Winter Arrangement, 1846-7.

On and after October 5th, 1846, Passenger Trains will leave daily, (Sundays excepted,) as follows:

Boston for Portland at 7½ a.m. and 2½ p.m.

Boston for Great Falls at 7½ a.m., 2½ and 3·25 p.m.

Boston for Haverhill at 7½ and 11½ a.m., 2½, 3·25 and 5 p.m.

Boston for Reading at 7½, and 11½ a.m., 2½, 3·25 5 and 6½ p.m.

Portland for Boston at 7½ a.m., and 3 p.m.

Great Falls for Boston at 6½ and 9½ a.m., and 4½ p.m.

Haverhill for Boston at 7½, 8½, and 11 a.m., and 3 and 6½ p.m.

Reading for Boston at 7, 8½ and 9½ a.m., 12 m., 1½, 4 and 7½ p.m.

The Depot in Boston is on Haymarket Square.

Passengers are not allowed to carry Baggage above **$50** in value, and that *personal* Baggage, unless notice is given, and an extra amount paid, at the rate of the price of a Ticket for every **$500** additional value.

1y31 CHAS. MINOT, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.

On and after Friday, May 1st, 1846, the cars will run as follows:

Leave City Hall for Yorkville, Harlem and Morrianna, at 7, 8, 9, 10 and 11 a. m., and at 1, 2, 3 30, 4 30, 5, 6, and 6 30 p. m.

Leave City Hall for Fordham and Williams' Bridge, at 7, 10 and 11 a. m., and at 2, 3 30, 5, and 6 30 p. m.

Leave City Hall for Hunt's Bridge, Bronx, Tuckahoe, Hart's Corners and White Plains, at 7 and 10 a. m., and at 2 and 5 p. m.

Leave Harlem and Yorkville, at 7 10, 8 10, 9, 10 11 10 a. m., and at 12 40, 2, 3 10, 5 10, 5 30, 6 10' and 7 p.m.

Leave Williams' Bridge and Fordham, at 6 45, 7 45, and 10 45 a. m., and at 12 15, 2 45, 4 45, and 5 45 p. m.

Leave White Plains, at 7 and 10 a. m., and at 2 and 5 p. m.

The freight train will leave the City Hall at 1 o'clock, p. m., and leave White Plains at 1 o'clock in the morning.

On Sundays, the White Plains train will leave the City Hall at 7 a. m. and 5 30 p. m.; will leave White Plains at 7 a. m. and 6 p. m.

On Sundays, the Harlem and Williams Bridge trains wil be regulated according to the state of the weather. 1y18

SUMMER ARRANGEMENT.—NEW YORK AND ERIE RAILROAD LINE, from April 1st until further notice, will run daily (Sundays excepted) between the city of New York and Middletown, Goshen, and intermediate places, as follows:

FOR PASSENGERS—

Leave New York at 7 A.M. and 4 P.M.
" Middletown at 6½ A.M. and 5½ P.M.

FARE REDUCED to $1 25 to Middletown—way in proportion. Breakfast, supper and berths can be had on the steamboat.

FOR FREIGHT—

Leave New York at 5 P. M.
" Middletown at 12 M.

The names of the consignee and of the station where to be left, must be distinctly marked upon each article shipped. Freight not received after 5 P. M. in New York.

Apply to J. F. Clarkson, agent, at office corner of Duane and West sts. H. C. SEYMOUR, Sup't.

March 25th, 1846.

Stages run daily from Middletown, on the arrival of the afternoon train, to Milford, Carbondale, Honesdale, Montrose, Towanda, Owego, and West; also to Monticello, Windsor, Binghamton, Ithaca, etc., etc. Agent on board. 13 tf

BOSTON AND ALBANY.—WESTERN RAILROAD.—Fare Reduced.

1846..Spring Arrangement..1846

Commencing April 1st.

Passenger trains leave daily, Sundays excepted—

Boston	7½	p. m. and	4	p. m. for Albany.
Albany	6½	" and	2½	" for Boston.
Springfield	7	" and	1	" for Albany.
Springfield	7	" and	1½	" for Boston.

Boston, Albany and Troy:

Leave Boston at 7½ a. m., arrive at Springfield at 12 m., dine, leave at 1 p. m., and reach Albany at 6½ p. m.

Leave Boston at 4 p. m., arrive at Springfield at 8 p. m., lodge, leave next morning at 7, and arrive at Albany at 12½ m.

Leave Albany at 6½ a. m., arrive at Springfield at ½ m., dine, leave at 1½ p. m., and arrive at Boston 6½ p. m.

Leave Albany at 2½ p. m., arrive at Springfield at 8½ p. m., lodge, leave next morning at 7, and arrive at Boston at 12 m.

The trains of the Troy and Greenbush railroad connect with all the above trains at Greenbush.

Fare from Boston to Albany, $5; fare from Springfield to Boston or Albany, $2 75.

Merchandize trains run daily (Sundays excepted) between Boston, Albany, Troy, Hudson, Northampton, Hartford, etc.

For further information apply to C. A. Read, agent, 27 State street, Boston, or to S. Witt, agent, Albany.

JAMES BARNES,
Superintent and Engineer.

Western Railroad Office,
Springfield, April 1, 1846.

TROY RAILROADS.—IMPORTANT NOTICE.—Troy and Greenbush Railroad, forming a continuous track from Boston to Buffalo and Saratoga Springs.

This road is new, and laid with the heaviest iron H rail. Trains will always be run on this road connecting at Greenbush each way with the trains to and from *Boston* and intermediate places, leaving Greenbush daily at 1½ p.m. and 6 p.m., or on arrival of the trains from Boston; leave Troy at 7½ a. m. and 4½ p.m., or to connect with trains to *Boston*

Trains also run hourly on this road between Troy and Albany. Running time between Greenbush and Troy, 15 minutes.

TROY AND SCHENECTADY RAILROAD.

This road is laid its entire length with the heaviest H rail- which is not the fact with the road from Albany. Trains will always be run on this road connecting each way, to and from Buffalo and intermediate places. Leave Troy for Buffalo at 7½ a.m. and 1 p.m. and 6½ p.m., or to connect with the trains for the west; leave Schenectady at 2½ a.m., 8½ a.m., 1 p.m. and 3½ p.m., or on arrival of the trains from Buffalo and intermediate places.

TROY AND SARATOGA RAILROAD.

THE ONLY DIRECT ROUTE.

No change of passenger, baggage or other cars on this route. Cars leave Troy for Ballston, Saratoga Springs, Lake George and White Hall at 7½ a.m., (arriving one hour in advance of the train from Albany,) and at 3½ p.m. Returning, leave Saratoga at 9 a.m. and 3½ p.m., (reaching Troy in time for the evening boats to New York.) Cars also leave Troy for the Burrough at 3½ p.m. and 7 p.m., connecting with packet boats for the north. This takes passengers from New York and Boston to Montreal in 44 hours.

N.B. Travellers will find the routes through Troy most convenient and economical, and as expeditious as any other. The steamboats to and from New York land within a few steps of the railroad office, and passengers are taken up and landed by the different railroad lines at the doors of principal hotels, thus saving all necessity for, and annoyance from, hack drivers, cabmen, runners, etc.

Aug. 3, 1846. 1y 32

THE BEST RAILROAD ROUTE TO THE Lake and Buffalo, from Cincinnati.

Take Cars to Xenia, 65 miles; take Stage to Mansfield, 88 miles; thence by Cars to Sandusky, 56 miles to the Lake; thence Steamboat to Buffalo, 230 miles.

Fare from Cincinnati to Sandusky.....$8 00
" " Sandusky to Buffalo, Cabin..... 6 00
" " " " " Steerage.... 4 50

Fare by this route, although the cheapest across the state, will be reduced in a short time, railroad lengthened, and speed increased.

Leave Cincinnati in the morning, arrive at Columbus at night.

Leave Columbus in the morning, arrive at Sandusky same day.

Leave Sandusky, by Boat, in the morning, arrive at Buffalo next morning in time for the Cars north and east for Niagara Falls, Canada, Saratoga Springs, Troy, Albany, Boston, New York, Washington, or Philadelphia.

Passengers should not omit to pay their fare through from Cincinnati to Sandusky, or from Columbus to Sandusky via Mansfield; as this route is the only one that secures 56 miles [this road is run over in 2h. 50m.,] most railroad which is new, and is the shortest, cheapest and most expeditious across the state.

Fares on the New York railroads are about to be reduced.

B. HIGGINS, *Sup't, etc.*
M. & S. C. R. R. Co.

Sandusky, Ohio.

RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO.,
Agents.
Corner of Cedar and Greenwich Sts. 48 1y

NEW RAILROAD ROUTE FROM BUFfalo to Cincinnati.

Passengers destined for Columbus and Cincinnati,

O., Louisville, Ky., St. Louis, Mo., Memphis, Tenn., Vicksburg, Natches, New Orleans, and all intermediate ports, will find a new, and the most expeditious and comfortable Route, by taking Steamboats at Buffalo, landing at Sandusky City, Ohio, distance.....230 miles.
From thence by Cars, over the Mansfield Railroad which is new and just opened [laid with heavy Iron,] to Mansfield, distance..... 56 "
Thence by Stage via Columbus to Xenia over gravel and Macadamized Road, (the best in the state,) in new coaches, distance..... 88 "
Thence, over the Little Miami Railroad, from Xenia to Cincinnati, distance.... 65 "

TIME.

From Buffalo to Sandusky..... 24 hours.
Leave Sandusky 5 a.m. to Columbus.... 14 "
From Columbus to Cincinnati..... 15 "

Or say 30 hours from Sandusky to Cincinnati over this route, including delays.

FARE.

From Buffalo to Sandusky, Cabin.....$6 00
" " " " Steerage..... 3 00
" Sandusky to Columbus..... 4 50
" " *through* to Cincinnati..... 8 00

Passengers should not omit to pay their fare *through* from Sandusky City to Cincinnati and take receipts availing themselves of the benefit of a contract existing between the said Railroad and Stage Co's, securing 121 miles travel by good Railroad and 88 miles by Stage, in crossing from Lake Erie to the Ohio river, in the space of 30 hours.

Passengers destined for St. Louis, or any point below on the Mississippi, will save by taking this route, from 4 to 6 days time and travel, and nearly half the expense, over the Chicago and Peoria route to the above places.

Fare by this route, although the cheapest, will in a short time be reduced, Railroad lengthened, and speed increased.

B. HIGGINS, *Sup't, etc.*
M. & S. C. R. R. Co.

Sandusky City, Ohio.

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and

Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER, 17 Burling Slip.
1y10 New York.

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger

trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m.

Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1·25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above.

351y

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston,

on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

1y25 JOHN KING, Jr, *Agent.*

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and

Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, *Civil Engineer,* Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railrord, has now run 4 seasons, and is still in good condition. 2v19 1y

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

LITTLE MIAMI RAILROAD.—1846.— Summer Arrangement.

Two passenger trains daily.

On and after Tuesday, May 5th, until further notice, two passenger trains will be run—leaving Cincinnati daily (Sundays excepted) at 9 a. m. and 1½ p. m. Returning, will leave Xenia at 5 o'clock 50 min. a. m., and 2 o'clock 40 min. p.m.

On Sundays, but one train will be run—leaving Cincinnati at 9, and Xenia at 5 50 min. a. m.

Both trains connect with Neil, Moore & Co.'s daily line of stages to Columbus, Zanesville, Wheeling, Cleveland, Sandusky City and Springfield.

Tickets may be procured at the depot on East Front street.

The company will not be responsible for baggage beyond fifty dollars in value, unless the same is returned to the conductor or agent, and freight paid at the rate of a passage for every $500 in value above that amount.

W. H. CLEMENT,
19 Superintendent.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO OOTHCALOGA, 80 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 388 miles in length, from Charleston to Oothcaloga on the Oostenaula River, in Cass Co., Georgia.

RATES OF FREIGHT.		Between Augusta and Oothcaloga. 250 miles.	Between Charleston and Oothcaloga. 386 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot	$0 16	$0 25
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	0 90	1 40
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Bar and Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 55	0 75
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Feathers, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc	0 37½	0 62½
	Cotton, per 100 lbs.	0 45	0 65
	Molasses, per hogshead.	8 50	13 50
	" " barrel.	2 00	3 25
	Salt per bushel	0 17	
	Salt per Liverpool sack.		95
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows	0 75	1 37

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight may be paid at Augusta, Atlanta, or Oothcaloga.

J. EDGAR THOMSON,
Ch. Eng. and Gen. Agent.
Augusta, Sept. 2d, 1846. *44 1y

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846. 1y1

TO RAILROAD COMPANIES AND MANUfacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

ATLANTIC AND ST. LAWRENCE RAIL Road. Notice to Contractors. Proposals wil be received at the office of the Atlantic and St Lawrence Railroad Company, in this city, from the 19th to the 24th October instant, inclusive, for the Grading, Masonry and Bridging of the second division of the road, extending from the termination of the first division, near the west bank of Royall's River, in North Yarmouth, to the Old Danville road, so called, a distance of about sixteen miles.

Also for the erection and completion of a pile bridge across the outlet of Back Cove, at Portland.

Plans, Profiles and Specifications will be exhibited, and the requisite information given at the engineer's office, in Portland, on and after the 20th of this month.

Persons offering to contract for the work, or any part thereof, who are unknown to the undersigned, or to the directors, will be required to accompany their proposals with references as to character and ability; and in all cases where any proposals shall be accepted, and a contract entered into, the Contractor will be required to give bonds for the faithful completion of his contract, according to the terms agreed on.

WM. P. PREBLE,
President Atlantic and St. Lawrence Railroad.
A. C. MORTON, Chief Engineer.
Portland, October 7, 1846. 2t42

TO IRONMASTERS.—THE UNDERSIGNed is now prepared to sell or lease the valuable seat for Iron works, known as the "Horse Shoe Bend" of the Merrimac River, together with several hundred acres of Iron Ore of a superior quality, in the immediate vicinity. The Ore lies in inexhaustible beds on each side of the River, (based some on sandstone and some on limestone,) and is a brown Oxide, the principal beds known as "Pipe Ore."—The beds are from five to thirty feet in thickness, from one to three hundred yards in breadth, and from one quarter to one mile in length. The ore accurs in distinct masses of from one to five hundred cubic feet in size, is connected with Yellow Ochre, and in point of *quantity* and *quality* is believed to be not inferior to any in the state. The distance of the Ore from the Bend is from one-fourth to three miles, and the cost of mining and transporting it to the furnace from the farthest beds, will not exceed sixty or seventy cents per ton.

The lands are thickly timbered with Oak, Hickory, Ash, etc., and when cleared off are fine for agricultural purposes. The distance around the Bend of the River is four miles, and the amount of natural fall in that distance is nine feet, to be made available by cutting a race three hundred yards in length across the Narrows, through which, if wanted, the whole River may be drawn by increasing the size of the race. Its situation is three miles below the Virginia Mines in Franklin Co., Mo., sixteen miles south of "South Point," on the Missouri River, and thirty-two miles west of a good shipping point on the Mississippi, from which latter the Merrimac River is navigable to the Virginia mines, and above for keel boats, batteaux, and other light craft, for more months in the year than the Ohio.

This water power, from its great extent and cheapness over any other now in use, must necessarily draw to it the smelting of those rich Ores of Copper and Lead which recent discoveries have shown to be so abundant in this region.

The wants of the vicinity require the erection of good grist mills; also, a large and profitable business can be done with saw mills, the material for lumber being varied, rich and extensive.

Large forests of Yellow Pine exist on the head of the Merrimac River, which can be easily floated down to the Bend, and from that point the rafts of lumber, can pass out to the Mississippi in any season af the year. The property is offered very low, as will be apparent to any one examining the same. Titles amply guarantied.

4t41] FERNANDO A. EVANS.
Virginia Mines, Franklin Co., Mo., Sept. 1846.

RAILROAD IRON.—1000 TONS HEAVY H Railroad Iron, 60 lbs. per lineal yard, expected to arrive within the next 30 days. Apply to
DAVIS, BROOKS & CO.,
October 9. [10t42] 68 Broad St.

GEORGE VAIL & CO., SPEEDWELL IRON Works, Morristown, Morris Co., N. J.—Manufacturers of Railroad Machinery; Wrought Iron Tires, made from the best iron, either hammered or rolled, from 1¼ in. to 2½ in thick.—bored and turned outside if required. Railroad Companies wishing to order, will please give the exact inside diameter, or circumference, to which they wish the Tires made, and they may rely upon being served according to order, and also punctually, as a large quantity of the straight bar is kept constantly on hand.—Crank Axles, made from the best refined iron; Straight Axles, for Outside Connection Engines; Wro't. Iron Engine and Truck Frames; Railroad Jack Screws; Railroad Pumping and Sawing Machines, to be driven by the Locomotive; Stationary Steam Engines; Wro't. Iron work for Steamboats, and Shafting of any size; Grist Mill, Saw Mill and Paper Mill Machinery; Mill Gearing and Mill Wright work of all kinds; Steam Saw Mills of simple and economical construction, and very effective Iron and Brass Castings of all descriptions. 1y1

VALUABLE PROPERTY ON THE MILL Dam For Sale. A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings thereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

Pattern shop, 35x32 fe. with lathes, work benches,

Work shop, 86x35 feet, on the same floor with the pattern shop.

Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, furnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry, at end of main brick building, 60x45½ feet two stories high, with a shed part 45½x20 feet, containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 200 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

Also—A lot of land on the canal, west side o Parker st., containiug 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

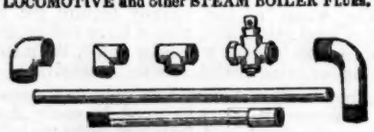
For terms, apply to HENRY ANDREWS, 48 State st., or to CURTIS, LEAVENS & CO., 106 State st., Boston, or to A. & G. RALSTON & Co., Philadelphia. ja45

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

RAILROAD IRON.—THE NEW JERSEY Iron Company, Boonton, N. J., are now preparing to make Railroad Bars, and are ready to take orders or make contracts for Rails, deliverable after the first of December next. Apply to

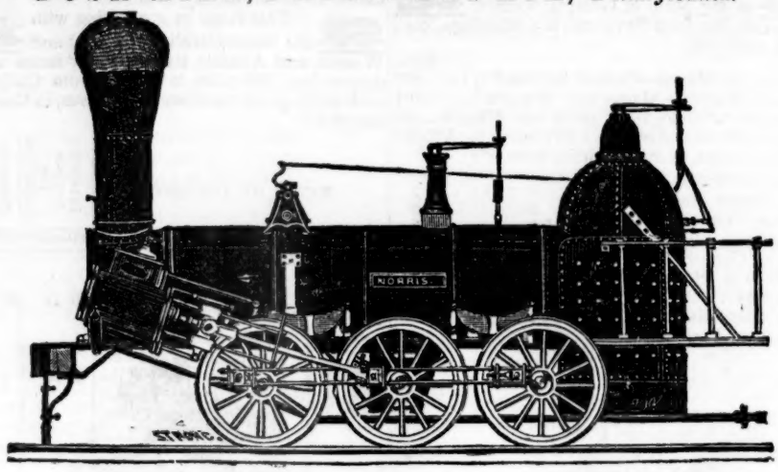
FULLER & BROWN, Agent,

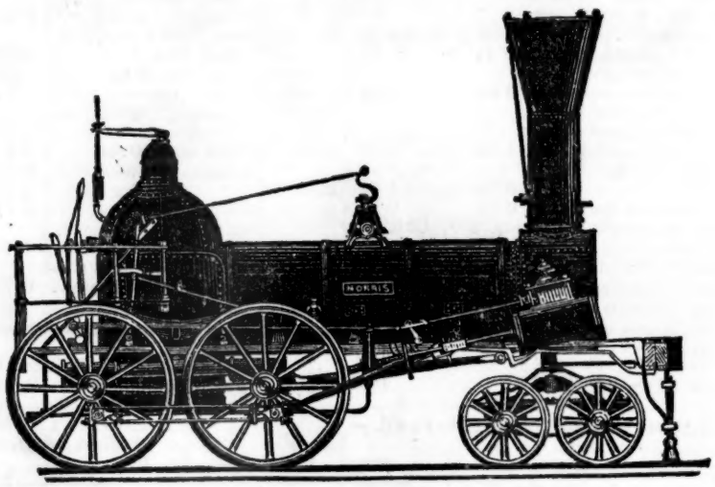
No. 139 Greenwich, corner of Cedar street.

September 18, 1846. 10t39

NORRIS' LOCOMOTIVE WORKS.

BUSH HILL, PHILADELPHIA, Pennsylvania.





MANUFACTURE their Patent 6 Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class	1,	15	inches	Diameter of	Cylinder,	× 20	inches	Stroke.	
"	2,	14	"	"	"	× 24	"	"	
"	3,	14½	"	"	"	× 20	"	"	
"	4,	12½	"	"	"	× 20	"	"	
"	5,	11½	"	"	"	× 20	"	"	
"	6,	10½	"	"	"	× 18	"	"	

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion.

Castings of all kinds made to order: and they call attention to their Chilled Wheels, for the Trucks of Locomotives, Tenders and Cars.

NORRIS, BROTHERS.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. ANDREW C. GRAY,

a45 President of the Newcastle Manuf. Co.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by A. & G. RALSTON

Mar. 20tf 4 South Front St., Philadelphia.

KEARNEY FIRE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy, N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, 4 mos. from delivery of brick on board. Refer to

James P. Allaire, Peter Cooper, Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr. Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co. Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark, N. J.
Gardiner, Harrison & Co. Newark, N. J.

25,000 to 30,000 made weekly. 35 1y

The Anthracite Coal Trade.

Continued from page 651.

Buck Mountain Coal Mine, Luzerne Co., Pa.—In continuation of the description of the geological position of the coal mine on the estate of the Buck Mountain coal company, I shall conclude my remarks thereon, by endeavoring to prove by geological data, (as promised in my last communication on the subject) first that the vein of coal worked by the Buck Mountain coal company is not (as has been represented) the same vein as that worked by the Hazelton coal company; nor is it any part of the vein; and secondly, I shall, from notes of a personal examination, (made expressly for that purpose,) show that the mine is *not* in the Hazleton basin; and that it is in the coal basin south of the Hazleton.

First, the slope or entrance to the mine on the estate of the Buck Mountain coal comcompany is situated on the *south* side of the mountain, on the *north* dip of the coal vein. The vein from which the coal is mined, is from its south to its north outcrop, between 700 and 800 feet. This measurement is made across the basin opposite the slope, and appears, from present developments, to be its general width.

In the coal vein an upper and a lower gangway have been driven. The upper gangway is driven from the out-crop of the coal vein at the top of the slope, and continued along the *north* dip of the vein 600 feet, to the west end of the basin is found—at this place the coal vein is nearly flat;—rising from the gangway towards the surface, at about 6 degrees. This gangway has not been continued round the west end of the basin, in consequence of its not draining a sufficient depth to give a workable breast of coal between it and the surface, or outcrop of the vein.

The coal vein at the commencement of the upper gangway dips to the north 26 deg. Down this incline, the slope has been made a distance of 100 feet from the surface; at its foot the lower gangway commences, which is driven east and west in the coal vein. In the west gangway, at about 500 feet from the foot or bottom of the slope, the coal vein rises towards the surface, south, 18 degrees. From this point the general course of the gangway, in rounding the basin, is north-west about 500 feet, to the western point of the basin, where the caal vein rises to the west at only 6 deg. The course of the gangway from this is north-east for about 300 feet further; here the rise of the vein is northward, and is increased to 9 degrees; at 300 feet further, the vein rises to the north 18 degrees; passing this, the gangway continues eastward along the *south* dip of the coal vein, which increases to 26 degrees, for say 500 feet further, making a distance of gangway from the commencement at the foot of the slope of about 1700 feet—the extreme end of which is on the *opposite side of the coal basin, in the south dip of the coal vein*, to where it commences at the slope, in the *north dip*.

The lower gangway has been driven eastward from the foot of the slope along the *north dip* of the coal vein about 1500 to 1600 feet. The rise of the vein towards the surface continues about the same from the slope throughout, viz.: about 26 degrees. At present no indications of the eastern end of the coal basin is observable in the workings.

In driving an air shaft from the lower western gangway up to the incline of the coal vein at the western point of the basin, it was discovered that it saddled over,—that is, the coal which in this place rose to the west turned over before it cropped out, or reached the surface, and formed a western dip or eastern end of another basin. After this discovery was made, the upper gangway in the first or east basin was continued, and driven through the stratum underlying the coal vein, which has to be cut down from four to five feet, to continue the gangway on the same level course; and the second or western coal basin was thus opened, and the gangway was continued in the *same coal vein* as that in the eastern basin; but it had only been driven a short distance, and sufficient explorations had not been made when I visited the mine to ascertain the shape or extent of this coal basin.

The coal vein worked at the Buck mountain mine consists of one bench, averaging about 1½ feet in thickness of marketable coal, with from 6 inches to 1 foot of bone coal overlying it. Over this is said to be another bench, 4 feet in thickness, separated from the bone coal by 2 feet of slate, and underlying the vein in work, is said to be first 4 feet of slate, then 7 feet of coal, then 1 foot of slate, and under this 4 feet of coal.*

On a lithograph map of the Buck Mountain coal company's mines, appears a diagram representing a section of their coal basin, where the coal vein in work is described as being 22 feet in thickness, divided as follows: "1st, bottom vein of coal 3½ feet thick, covered with 6 inches slate; 2d, vein of coal 7½ feet thick, covered with slate 5 feet thick; 3d, vein of coal 9½ feet thick, covered with slate 6 feet thick; 4th or top vein 2 feet thick,"—making 22½ feet of coal, and overlying this vein. In the same basin is represented three others, viz.: "1st, a vein containing 10 feet of coal on crop, divided by 6 inches of slate; 2d, vein of coal, thickness not proved; 3d, a small top vein of coal."

In the diagram, the length of tunnel required to be driven, to cut the bottom, or lower vein of the basin, is estimated at 460 feet; in another plan of the mine, it is estimated at 628 feet.

When I visited the Buck Mountain mine, I was informed that the tunnel was then driven in about 205 yards or 615 feet. The face of the tunnel was then in the conglomerate rock, the bed of the coal formation. Since my visit, the tunnel has been driven 75 feet further, making a total distance of 690 feet. It is now through the conglomerate and in the sandstone that underlies the coal vein. The tunnels calculated to be driven 90 feet further, before it reaches the centre of the coal basin. Its point of termination is intended to be five feet below the coal and slate above described.

To prove that the vein of coal worked at the Buck Mountain coal company's mine is *not* the same vein as that worked by the Hazleton coal company, we have the character, the thickness, and the geological situation of these two veins, as corroboration. The character and fracture of the coal are different, the alternations of coal and slate differ in the thickness, as will be perceived by a comparison of the sections, as their geological position (the greatest and most convincing proof of their being different veins,) is not the same. In the Hazleton coal basin, there is developed three other coal veins which underlie the one worked by the company, separated from each other by strata of shales and sand stones, forming a perpendicular distance between it rock of, say 200 feet. At Buck Mountain the bench of coal in work is part of the bottom vein of the basin, lying immediately over the conglomerate rock. At Hazleton, where the coal strata dips at an angle of 30 degrees, we have between the vein in work and the conglomerate rock, an horizontal distance of from 1500 to 2000 feet. At Buck Mountain, where the dip is only 26 degrees, (which makes the horizontal distance between the strata greater than it is at Hazleton, where the dip is thirty degrees) we have, as shown by the measurement of the tunnel not more than 100 feet horizontal measurement from the conglomerate to the vein in the work; thus satisfactorily proving, by accurate developments, that the coal vein worked at Buck Mountain is not the same as the coal vein worked at Hazleton, nor any part of that vein.

I shall now conclude this subject, by endeavoring to show, by geological facts familiar to all who are acquainted with coal formations, that the vein of coal worked by the Buck Mountain coal company is not the Hazleton coal basin. The conglomerate rock is not displaced, but is continuous, and its range well marked from the point at Buck Mountain slope, where it forms the *south boundary* of that coal basin, to where it crosses the Hazleton railroad at the saw mill, north of Indian house swamp, and Dreck creek, and from thence still further west. And the conglomerate rock, which forms the *north boundary* of the coal basin at Buck Mountain, is continuous from thence to where it crosses the Hazleton railroad, north of the Dreck creek, and north of the former range. The former or southern range of conglomerate is, at the Hazleton railroad, the south boundary of what is there called the Dreck creek coal basin. The latter, or northern range, where it crosses the Hazleton railroad, forms the north boundary of the Dreck creek, and the south boundary of the Hazleton coal basins. Its strata is anticlinal, having, at this place, a south dip under Dreck creek, and a north dip under and towards the centre of Hazleton coal basin. These facts are something more than

* The strata of coal and slate said to underlie the vein in work, was, I am informed, proved by boring in the lower gangway east of the slope.

suppositions; they evidently and abundantly testify that the Buck Mountain coal company's mine is in the continuation, and the eastern end of the Dreck creek coal basin.

At the Hazleton railroad, where the south and north ranges of conglomerate before described crosses, the south range has a north dip, but in a short distance rises again, thus forming a shallow basin; this rise saddles over, and again dips north, under Dreck creek; it then rises again, making the south dip of the north range, forming a second basin. These undulations of the strata in the Dreck creek coal basin, as seen in the Hazleton railroad, developed by the transverse cut through the ridge by the stream of Hazle cree, may continue with the basin, and be found in the prosecution of the workings at Buck Mountain mine.

Finally, the foregoing fact must be understood as written, to give the true position of the basin; and not in any way to depreciate the value of the Buck Mountain coal company's estate. The coal of that estate, from its advantageous position, may be mined at low rates; it is of unquestionable good quality, and, although the basins are of small area, a supply of coal may be calculated upon to meet all reasonable demands for many years to come.

Further, I take this opportunity to remark, before I close this communication, that, from personal explanations, I have been led to consider this section of country, as regards its mineral wealth, of much greater value than I had anticipated. Tracts of land, from the undulating nature of the strata, will hereafter be found to contain valuable veins of coal, which are now generally considered and known as timber, and not coal lands. I have now under preparation, a map of this part of the anthracite formation, which will show, when complete, the boundaries of the various coal basins, with sections of the coal strata, and exhibiting the course of the coal veins which may be expected to be found therein:

W. F. ROBERTS,
Engineer of mines.

Second Annual Report of the Vermont Central Railroad Company.

To the General Assembly of the State of Vermont:

In compliance with the 19th section of the Vermont Central railroad company, the directors of said company submit the second annual report of the proceedings, receipts, and expenditures up to the 9th of October, 1846.

According to the notice publicly given the board of directors commenced the location of the road on the 16th October, 1845, and have located so much of the line authorized by the charter as lies in the vallies of Connecticut, White and Onion rivers, and between a point opposite Chase's island in Windsor, and the eastern shore of lake Champlain in Burlington.

An application having been made to two judges of the Supreme court, A. Anderson, S. Adams, and J. Curtis, Esqs., were appointed commissioners to appraise damages for all lands and other real estate entered upon and used by the company, in cases of disagreement between the owners and the company; and by mutual agreement of the parties, or by the award of the commissioners, the company has been enabled to enter upon the portions best adapted for the prosecution of the work of grading during the past season.

In November last, a contract was entered into with Sewall F. Belknap, an experienced contractor, to construct and finish the road in every respect in the most substantial manner; and on the 15th day of December last, the ground was first broken, at a point near the village of Windsor, and the work of grading has been vigorously and successfully maintained, with but occasional interruptions, and those on the line between Montpelier and Burlington, which have occured without any fault on the part of the company.

The amount of work done has been large, and fully warrants the expectation that the whole can be completed in the most substantial manner, at the earliest time, and within the cost anticipated by the company.

Prior to the 1st October, 1846, the amount of work done on the road was as follows:

1,764,000 cubic yards of earth removed.
47,100 " " rock "
14,200 " " masonry done.

About 22 miles of the road is graded, or nearly so—being about one-fifth of the entire line. A large portion of the light work is yet untouched, attention thus far, having been generally bestowed on the heavier parts of the work.

There would be no difficulty in having the line graded from Windsor to the Onion river before the closing in of the winter of 1847.—By a little extra exertion, this might be accomplished in October, and the superstructure laid before frost. The Onion river portion could not be readily prepared before another season, though it may be practicable to reach Richmond as early as the winter of 1847-8.

The account of receipts and expenditures has been as follows; on the next page, as signed by the treasurer.

Vermont Central Railroad Co., in Account with S. H. Walley, Jr. Treasurer.—October 9, 1846.

	Dr.
To engineering	$30,317 04
" exchange	4 88
" grading	186,345 91
" incidental expenses	15,126 07
" land taxes	46,457 62
" bridging and masonry	17,654 09
" superstructure	223 30
" Wmooski turnpike	18,000 00
" C. Paine, president, for grading and land damages not included above.	18,507 67
" Vermont and Canada railroad	989 92
" notes receivable	16,863 11
" bank of Montpelier	3,977 06
" bank of Woodstock	10,730 00
" Farmer's and Mechanic's bank	180 04
" Merchant's bank	9,781 90
" cash on hand	3,243 44
	$378,422 05
	Cr.
By amount received for assessments	$377,460 50
" interest	961 54
	$378,422 05

Chas. Paine, Jacob Forster, Sam'l S. Lewis, Daniel White, Robert G. Shaw, and John Peck, directors.

Nashville and Chattanooga Railroad.

We take pleasure in laying before our readers the following extract of a letter from J. Edgar Thomson, Esq., to our fellow townsman, Col. Jas. A. Whiteside. The information it embodies will be of interest to al. who are looking with anxiety to the building of a road from this point to Nashville:—*Chattanooga, (Tenn.,) Gazette.*

NASHVILLE, Tenn., Sept. 14, 1846.

DEAR SIR: Having finished a reconnoisance of the country between Chattanooga and Nashville, I have the pleasure to inform you, that I consider it not only practicable to construct a railroad between these places, but that it can be executed upon terms, both as regards cost, and gradients, that are more favorable than can be obtained upon any other route in the Union, connecting or proposed to connect the Atlantic and western states, by crossing the intervening mountain ranges.—The greatest elevation at which the road will be carried over the mountain, will scarcely exceed 1200 feet above the ocean, or about 500 feet above Chattanooga.

The instrumental examinations, now in progress, have not advanced sufficiently to enable me to give a very accurate estimate of the cost of the work. But I have no hesitation in saying that it will fall greatly below a sum, which the important objects to be attained by the completion of the road, would justify its expenditure to secure.

The region of country that will be tributary to this work, is unrivalled for the richness of its soil, variety of its agricultural products, and extent of contiguous first quality of lands by any section of the Union. It not only embraces middle Tennessee and a part of north Alabama, but a very large area of the best part of Kentucky. In fact, the products of the country are ample for the support of such a work, and the ability of the citizens—if they will put forward their strength—is more than competent to its execution without a great exertion.

Profitable Increase in Traffic on Railways,

As produced by great reduction in the charges.

BY MR. B. WILLIAMS.

The carriage of goods, the original object in the construction of railways, has been kept out of view until lately by the increase in passenger traffic calling for all the energies of the managers, and the entire revenues of the companies, except on the old established lines, where it has been proved, Mr. Williams states, that the increase of net profits from goods is greater than the increase of net profits from passengers. Goods of small bulk, compared with their value, may be sent by railway, but not agricultural or mineral produce, generally goods of great weight and bulk in proportion to their value at the present high charges, although a railway is the construction of all others calculated to meet this demand by its mechanical power. It is a great and costly machine or engine, the produce of which is cheap if it be fully employed; if the machine be idle, or work with incomplete action, a loss of interest on the great outlay must be the result. The cost of conveyance on all

railways, in Mr. Williams' opinion, admits of being separated into two elements; first, interest on capital, together with certain fixed charges, which are independent of the greater or less use made of the railway; second, the actual working expenses that result directly from the work done. In Belgium, in order to provide interest at the rate of 5 per cent. on the original cost of the railways, with a goods traffic per mile per annum of 40,000 tons (the actual traffic to the year 1844 on the Belgium railways) the charges would consist of 3*d.* for interest and other fixed demands, and ½*d.* for working expenses, making a total charge of 3½*d.* required, with that amount of tonnage, to pay 5 per cent. on the capital. The actual charge was 2½*d.* per ton per mile, and the railways were then working at a loss, the government having borrowed the capital for their construction at 5 per cent, and having in net return, after defraying the expenses, only 2½ per cent. Yet at the very time the railways with their superior advantages in economy of time and regularity of delivery, were carrying only 40,000 tons per mile per annum, the canals were carrying 400,000 tons. The charge on the latter was 1½*d.* per ton per mile, or half of the charge on the railways. Had the railways but carried one-half of the tonnage of the canal company, at the canal charges, instead of an annual loss to the revenue of £60,000, there would have been an annual gain of £52,500. Mr. Williams illustrated his paper with various tables and returns, calculated upon data embracing the average cost of railways in England, and funding for interest at the rate of 5 and of 10 per cent. on the capital. The tables showed of how much importance it is for the benefit of the public, consistently with the pecuniary interest of the capitalists, that large quantities of goods should be carried; that, for example, while, with an average traffic of 100,000 tons per mile per annum, the charge required to produce 10 per cent. on the capital, after paying the working expenses, should be about 4½*d.*, with an annual traffic per mile of 500,000 tons, a charge of 1½*d.* per ton on the average of all goods would produce an equal return after paying the expenses. This subject was pursued, illustrated by tables, with reference to the conveyance of passengers, of various classes of goods, cattle, etc. The applicability of these tables to test the substantial character of new schemes was made apparent. A necessary conclusion of Mr. Williams' investigation is, that expansibility in the railway system (both as regards the mechanical power and the mode of management) is required; and that it is the interest of the companies to increase, in a great degree, both the goods and the passenger traffic by a system of low charges. It is to the interest of the public that as much traffic as possible should belong to each line, and thus competing lines are highly injurious to the public, by preventing the reduction in charges that can only be the result of the conveyance of numbers of persons and quantities of goods; in other words, the machine should be kept fully employed.—*Athenæum.*

Blasting Shoals in the River Severn.

At the institution of civil engineers, on Wednesday night, the paper read was by Mr. G. Edwards, member of the institution of civil engineers. It describes the method employed for breaking up the shoals in the river Severn, between Stourport and Gloucester. These shoals consist of marl rock, so compact and tough as to resist all attempts to break it up with the stream dredger, or by prize bars, or with a powerful species of subsoil plough. Recourse was therefore had to blasting with gunpowder, and the process of these operations formed the subject of the paper. Messrs. Grissell & Peto were the contractors for the work, and for them Mr. Edwards designed and executed the blasting operations. A series of rafts were moored in a line over the shoal, parallel with the bank of the river. Along the centre of each raft there was an opening, through which wrought iron tubes, 3½ inches diameter, were driven down, at intervals of six feet apart, through the gravel down to the marl; within-inside these tubes the workmen used the chisel-pointed jumper to make the shot holes, to a depth of six feet below the surface. The loose stuff was extracted by an auger. A tool cartridge of canvas well pitched and tallowed, containing three pounds of powder, was lowered through the tube into the hole, which was well rammed with loose marl.—The charge was then fired by means of Bickford's fuse. There was generally but little apparent external effect from the shot, except lifting the pipe a few inches. But sometimes a column of water would be driven up through the water to a height of forty or fifty feet. It was found that each shot had loosened a mass of marl of conical or parabolic form, of which the bore hole was the centre, and its bottom the apex, so that four adjoining shots of two parallel lines would leave between them a pyramidal piece of marl, which was removed by the dredging machine with the loose stuff. This operation of blasting was repeated in parallel lines along all the shoals, and the stuff was dredged up at the rate of 200 to 300 tons per day. The cost of blasting was about 1*s.* 9*d.* per cubic yard. It was stated that the six principal shoals had all been successfully operated upon, and great credit was given not only to the design, but also to Mr. Edwards for the systematic and complete manner in which he had arranged and conducted the operations.

The society showed their approbation of Mr. Edward's abilities by awarding him the Telford medal for 1845. We may add that many thousand tons of matter have been thus already broken up and raised; that two dredging machines are now regularly employed, and that the works are progressing in the most satisfactory manner. As the tolls empowered by the act cannot be imposed until there is six feet water from Stourport to Gloucester, every possible exertion is being used by the contractors, Messrs. Grissell & Peto, to expedite the completion of the work; two dredging machines have lately been working from 3 a.m. to 9 p.m., indeed, we are informed, one of them, No. 1, absolutely raised the surprizing quantity of 900 tons one day last week! A third dredging machine, built by Mr. Rebel, of Gloucester, under the direction of Mr. Edwards, was launched last week, and will very shortly be ready for work.—Viewing the magnitude and difficulties of the works, we consider it fortunate for the commissioners that they have been entrusted to such responsible parties as Messrs. Grissell & Peto, who have at their command the talent and the means necessary for anything that may be required to be executed. We are told it is no uncommon circumstance for this firm to have in their employment at one time, on different works, as many of 10,000 men.—*Naut. Mag.*

The City of Boston.

It can be a matter of no question that the "city of notions" is highly indebted to the railroads which centre there for her present and her prospective prosperity. Within the last few years, no city on our Atlantic coast has increased in wealth and population like this—and none are now making greater progress than Boston. The following article from the New York Journal of Commerce contains much truth, and the remarks are those of an attentive observer of passing events. We commend it to the notice of our readers.

"Any man who visits this centre of eastern enterprize, will be astonished at its growth. The last three years, especially, have made it almost to burst with its swelling greatness. Such a people, so intelligent, enterprizing and industrious, where everybody works, will be rich, and will accomplish whatever they undertake. But Boston has been more than successful. Her railroads and other plans of improvement have surpassed the expectations of their projectors, in their favorable results. The number of her merchants has been immensely increased, while everybody does a much larger business than formerly, especially among the dry goods dealers. He was a respectable jobber a few years ago who sold $100,000 worth of goods; but now 300 to 500 thousand is a common thing. The stores of the dry goods jobbers are built like palaces, with an exuberance of cost, which is almost in bad taste. The renowned peninsula is all built over snug and tight, and thousands of business men live out of town, conveyed by omnibuses and railroad cars. Hundred thousand dollar men are plenty now all about, and millionaires are to be found here and there.

The Bostonians attribute their very great prosperity to their railroads, especially that to Albany. This road has opened to them the western trade more fully than they had it before, and has made Boston more accessible to the west, at some seasons of the year, than New York. Boston deserves whatever prosperity she gains from this noble enterprize. It was not built by her capitalists and retired men. They never do such things. The men in active business, who had less personal interest in it, but more enterprize and public spirit, did it, as they must ever do such things. They could do it; for in Boston there is a concentration of the public mind, which brings out and directs its mighty force to great achievements. We have no jealousy of Boston's prosperity, and no fear that it is to un-

dermine that of New York. But we should be glad to see New York acting with as much good sense and concentrated enterprize. Our want of concentration of sentiment—anything like a New York spirit—is perhaps the result, in a great measure, of our prosperity. Yet prosperity so treated is enfeebling and in the end may cost more than it is worth. Nature had made New York great, but art sometimes overcomes nature. Nothing is more plain than that we ought to have a railroad to Albany, and ought to have had one before Boston built hers. It is a reproach to our sagacity, and to the character of our noble city, that we have it not. In the effort to do it we were singularly unfortunate. In Boston there never could have been the mismanagement which it took us so long to overcome in the Erie road, and which we have yet to overcome in that to Albany."

(Official) Reading Railroad.

A comparative statement of the business on the Philadelphia and Reading railroad for the week ending—

	Oct. 12, 1844.	Oct. 11, 1845.	Oct. 10, 1846.
Travel	$1,642 30	$2,059 77	$3,099 52
Freight on goods.	724 39	1,044 21	2,638 56
" coal...	13,192 72	25,827 75	47,873 56
	$15,559 14	$28,931 73	$53,611 64
Coal trans.—tons.	11,532	20,519	32,695

A comparative statement of the business on the Philadelphia and Reading railroad for the week ending—

	Oct. 19, 1844.	Oct. 18, 1845.	Oct. 17, 1846.
Travel	$2,107 06	$1,812 47	$2,499 82
Freight on goods.	992 74	1,012 75	2,450 69
Do. do. coal..	12,429 13	24,714 46	41,623 57
	$15,528 93	$27,539 68	$46,572 08
Coal trans., tons..	11,209	19,584	28,929

Erie Railroad.—The earnings of the eastern division of the Erie railroad for the year ending Sept., 30th, 1846, were as follows:

From freight	$113,832 05
Passengers and mail	66,607 08
Total	180,439 13
The earnings for year ending Sept. 30, 1845, were	161,545 08
Increase	$18,893 05

Erie Railroad.—The earnings of the eastern division of the Erie railroad for October, were,

From passengers and mail	$7,020·27
" freight	12,369·96
Total	19,390·23
Same month last year	15,740·20

Increase $3,650·03.

Another section has been opened for travel on the above road between Middletown and Otisville, a distance of nine miles; making a total distance, including ferry to Piermont, of eighty-seven miles.

Mohawk and Hudson Railroad.—The following are the earnings of the road for the week ending October 14th:

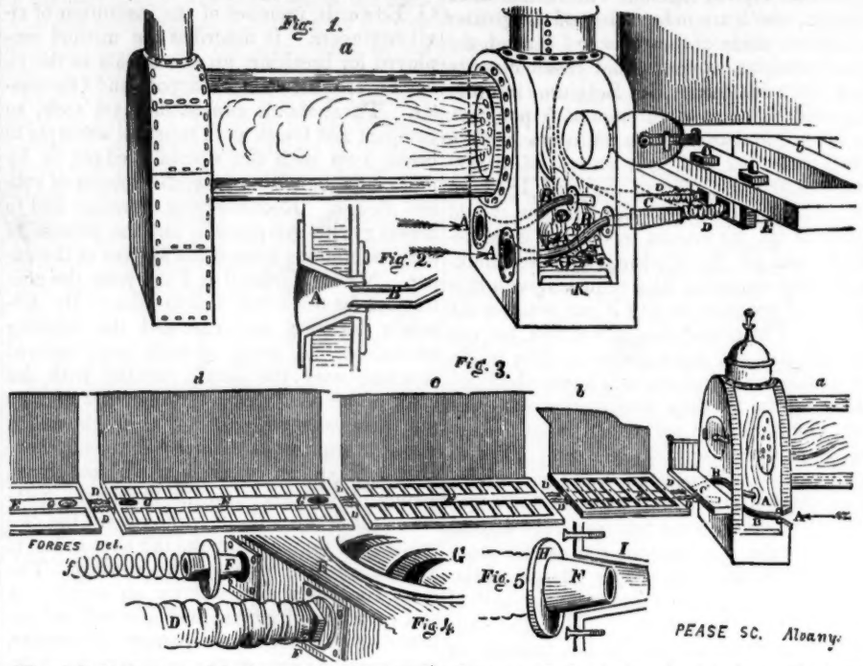
Passengers	$2,403 61
Freight	102 91
	2,506 52
Same period in 1845	2,169 83
Increase upwards of 15 per cent., being..	336 69

The earnings of the road during the same week for the last five years have been as follows:

1841	$2,003 63
1842	1,917 48
1843	1,341 28
1844	2,313 63
1845	2,169 83

Toppan Townsend, of Albany, N. Y., has patented an apparatus for warming a train of railroad cars. The following communication, and its accompanying diagrams, pretty clearly illustrate the plan.

Townsend's Patent Apparatus for Warming and Ventilating Railroad Cars.



Through the furnace of the locomotive are passed two cast iron pipes, which presenting enlarged orifices in front as seen at A, pass and if necessary repass and pass again through the furnace in the midst of the fuel as seen at B, and thence communicate backwards with the reservoir situated in the platform C, upon which the fireman stands. From thence the heated air is conducted by means of *elastic* and *flexible* hose D, into continuous air chambers E, which are let into the sleepers of each car, and from these the warm air is received into the cars by register G, in such quantity as is required to render the atmosphere comfortable and pleasant. The elastic and flexible hose are constructed from such materials as to render them durable. These are connected to the cars by beveled metalic pipes F, with flanges, and are attached to both ends of the hose, which are kept in place by the strength of the spiral spring *f*. Fig. 4 represents an enlarged view of the hose, and end of the air chamber E, with a portion of the register G, with a part of a complete hose D, fully connected to the air chamber at E, and *f* represents the spiral coil of wire within. Each car is furnished with two registers to accommodate the running of the cars either backwards or forwards. Cap screws H, are screwed on to the two orifices in the ends of the air chambers in summer, and also on to the two orifices on the end of the chamber in the last car of a train in winter, to prevent the escape of the warm air. *a*, in the above cut, represents the furnace and pipes in the locomotive; *b*, the tender; *c*, a baggage car; and *d*, a passenger car.

Uses for Iron.—By the recent change of style of new buildings, and in modernizing old ones, this important article is coming into very common use for store fronts, pillars, doorways, window sills, capstones, door frames, etc., etc., and even rafters and *shingles*, (roofing,) are very common. Iron boats are of every day growth, and iron buildings are now not a very uncommon thing. Mr. Wm. Beach, of Troy, N. Y., has just patented a mode of using *cast iron* for covering roofs of houses. They are cast about a foot square, says the Albany Journal, and are made to fit one into another, so as to render the roof water tight by applying white lead to the joints. It can be afforded at 16 cents the square foot, and comes about half the cost of copper. They weigh 3½ pounds a square foot. Slate costs 8 cents per square foot.

Railroad from Albany to New York.

The Albany Knickerbocker says, there is an evident determination on the part of capitalists in that city, and along the proposed line between New York and Albany, in the counties of Columbia, Putnam, and Westchester, to connect the island of Manhattan by means of a railroad, with this city and the west. The Hudson river railroad not having met with that success anticipated, the project is about to be abandoned, we hear, and of course, the only road to be depended on, is the Harlem road. In less than thirty days, 52 miles of the Harlem road will be completed and in running condition. In six months more, it is supposed it will be connected with the Albany and West Stockbridge road, which will open a direct communication between Albany and the great metropolis. Men of enterprize and wealth in this city, and in the different counties through which it is to pass, are determined on completing it immediately. The right kind of men are busy, and we have no hesitation in saying that they will succeed.

As we remarked before, the road will be completed to Dover, the centre of Dutchess county, before many months. This will open a new trade with the rich and flourishing counties through which it is to pass, and will give a new impetus to the business prospects of the road. We are not aware of a railroad in the country, that has a more flattering prospect before it than the Albany and Harlem. It is impossible to form an idea of the immense amount of freight and travel which passes from New York

and Albany, from the 1st of December to the middle of April. It is increasing every year, and if a direct road was once in operation, business would more than double.

The Knickerbocker thinks this will prove one of the best paying roads in the country, and believes that in a year from this time, the work will be completed through from Albany to New York city.

Correspondents will oblige us by sending in their communications by Tuesday morning at latest.

PRINCIPAL CONTENTS.

The anthracite coal trade.....709
Vermont Central railroad report.....710
Nashville and Chattanooga railroad.....710
Profitable increase in railway traffic.....710
Blasting shoals in the river Severn.....711
The city of Boston.....711
Railroad receipts.....712
Townsend's patent apparatus for warming and ventilating railroad cars.....712
Central Pennsylvania railroad.....712
Hiwassee railroad.....716
Boston, Concord and Montreal railroad.....716
Notice to contractors.....716
Miscellaneous items.....716

AMERICAN RAILROAD JOURNAL.

PUBLISHED BY D. K. MINOR, 23 Chambers street, N.Y.

Saturday, November 7, 1846.

CLEVELAND, COLUMBUS AND CINcinnati Railroad. In pursuance of a resolution adopted by the Board of Directors, on the 21st October, notice is hereby given, that proposals will be received up to the 1st day of December next, for the Grading, Timbering, Bridges and Culverts on forty miles of the road, commencing at Cleveland. Profiles, Specifications, Terms of Payment, and all other information pertaining to the matter, to be furnished on application at the office of the Company, Merwin Block, Cleveland.

JOHN W. ALLEN, President.

A. G. LAWRENCE, Secretary.

CYRUS WILLIAMS, Engineer.

Cleveland, October 23, 1846. 45*1m

RAILROAD IRON.—100 TONS RAILroad Iron [Bridge pattern] for sale low to close a consignment by

JOHN F. MACKIE,
189 Water street.

November 7th, 1846. 1m45

Central Pennsylvania Railroad.

We are free to say that the gentleman who introduced this subject to the readers of the Journal, in a recent number, has complied with our request for its continuance in a manner that shows him to be thoroughly acquainted with it, in all its bearings; and also that he appreciates justly its importance to the city of Philadelphia.

We agree with him entirely in his closing remark, that "the *property holders* of Philadelphia could build the road, and, though they sunk every dollar invested, would be gainers;" and we now call upon them to put their shoulders to the wheel—and by a *united* effort secure, beyond a question, the early completion of a work from which advantages *now* incalculable would result to, not only the property holders, but also to the laboring and industrious classes of the city.

The communication of Mr. Wright ought to be read by every property holder in the city—by *city*, we mean, not only the city *proper*, but also the *districts adjoining* it—as they are all equally interested in it. His apology, in closing, is quite uncalled for—and we will simply say, that if he has any apology to make on the subject, it should rather be for having *so long delayed* his communications to the Journal; and we will excuse the past omission, on condition that he will continue the subject in the same efficient manner.

For the American Railroad Journal.

MR. EDITOR: In a former article a half promise was made to give some estimate of the value of the western trade, as connected with the Pennsylvania railroad, the relative expense of transportation when compared with other lines, and the probable business of such a road. Though deprived of some expected statistics, yet the probable employment of my time for some months to come, is an inducement to contribute at this time my mite in advancing the welfare of Philadelphia and the state of Pennsylvania.

Free use has been made of all authorities within reach, and though in many respects this article may be but a compilation, yet perhaps for that reason the more reliable.

Half a century has scarcely passed since the country west of the Allegheny was one vast wilderness, extending through eighteen degrees of latitude, drained by 12,000 miles of navigable waters, with a lake coast of 5,000 miles, and covering an area of 450,000 square miles—possessing a soil unequalled for richness, and for productiveness surpassing that of any other country.

While the region east of the mountains requires continued artificial aid to support its life and vigor, the western valleys have a depth of alluvial soil sufficient for ages to come.

This great difference insures to the west the part of producer, while the east is left to manufacture and consume the produce of the west, and in this exchange a valuable and rapidly increasing trade consists.

The trade lines designate the points at which the produce of the west collects, and which in turn become points of distribution for merchandize. These are now Cleveland, Toledo, Detroit and Chicago on the lakes. Cincinnati, Louisville, St. Louis, Memphis and New Orleans on the Ohio and Mississippi rivers.

There is great difficulty in arriving at the trade of these points, but from present data we may derive an approximate estimate. Three natural divisions may be made in western business, each of which we will endeavor to compute.

1st. The lake trade.
2d. The *up* river trade.
3d. The *down* river trade.

The able letter of James L. Barton, Esq., of Buffalo, to Hon. Robert McClelland, furnishes the most complete history of lake commerce, and I am indebted to him for many facts.

The lake region comprises an area of 280,000 square miles, being five times as large as the whole of England and Wales. Her commerce has wonderfully increased within a few years. Prior to '32 but little was known of northern Illinois, Indiana, and of Wisconsin, but the close of the Black Hawk war brought thousands of adventurers into that country, and now the whole region is prosperous, and rapidly becoming rich. It has not been long since Ohio supplied the region west of her with provisions, but the tables are almost turned, and *she* can be supplied by her younger sisters. The enereies of the western people are now directed to opening lines of communication with the lakes and great rivers, and to form an estimate of the capabilities and future prospects of the west, a reference to these improvements is necessary, and an able description is at hand in the National Magazine for Sept., 1846.

"Lakes Erie, Huron, Michigan, and their connecting waters, are every where bounded by a most productive soil. They are bordered by more than two thousand miles of country, stretching out to an unknown extent. The upper Mississippi and the Ohio rivers, which will lead into lake Erie, and thence to the canal, (New York and Erie) are bounded by countries equally extensive and fertile.

The states of Ohio, Indiana, Illinois, the best portion of Missouri, the whole of Iowa and Wisconsin, so soon as the constructing works are completed, and the Erie canal is enlarged, must all bring hither their abundant productions. The area of this territory consists of about 190 millions of acres, yielding when cultivated the most bountiful returns.

The state of Ohio has a canal leading from lake Erie 300 miles to Portsmouth on the Ohio river, and is connected with the Pittsburg canal and 200 miles of lateral navigation on the way. Another canal, called the Erie and Wabash canal, passes through about 90 miles of Ohio, along the rich valley of the Maumee, to the Indiana line; and then passes on through Indiana to the navigable waters of the Wabash. Connected with this line are the Dayton and Miami extension canals, 200 miles in length, passing through the more settled parts of the state, from the Ohio river at Cincinnati, and intersecting the Erie and Wabash canal at fort Defiance.

From the waters of the Wabash, another canal is in the couose of construction, to connect with the Ohio river at Evansville, through Terre Haut; thus forming a *third* connection between lake Erie and that river, and conducting into that lake the products of nearly the entire states of Ohio and Indiana, and opening a channel to the state of Kentucky.

If we turn from these great channels further west, andlook out upon lake Michigan, we find it bordered about 100 miles by the rich praries of the state of Illinois. and 300 miles of the territory of Wisconsin, and 250 miles of the state of Michigan. Illinois ranks in size with the first states in the union, and has a soil not exceeded in fertility by any. It presents facilities for settlement nowhere surpassed.—Bounded 100 miles on lake Michigan, and washed on its west and southwestern border 600 miles by the Mississippi, and on its southeast by 200 miles of the Wabash. A canal of large dimensions from the waters of lake Michigan, extending 100 miles to the navigable waters of the Illinois river, is now in a state of forwardness, and will be completed the ensuing season. The Illinois river is navigable for large sized steamboats, and cuts the state diagonally from the intersection of the canal to the waters of the Mississippi, just above the mouth of the Missouri, its course is 350 miles to St. Louis. It thus draws to lake Michigan the whole of the upper Mississippi and the river Missouri, the whole of the state of Iowa, and the entire trade of Illinois."

The different lines of railroad have been designated before. Here then is presented a view of the main outlets for their produce, and a few years only will elapse, ere they will make rich returns on the investments. The following table of tonnage and of tolls, and value of all articles reaching tide water on the Erie canal of New York, for the last 12 years, forcibly illustrates the rapid increase in the surplus productions of the west.

Years.	Tons.	Value.	Am't. of tolls.
1834	553,596	$13,405,022	
1835	753,191	20,525,446	
1836	696,347	26,932,470	
1837	611,781	21,822,354	
1838	640,481	23,038,510	
1839	602,128	20,163,199	$1,599,038
1840	669,012	23,213,573	1,773,583
1841	774,334	27,225,322	2,033,262
1842	666,626	22,751,013	1,748,870
1843	836,861	28,453,408	2,082,146
1844	1,019,094	34,183,167	2,446,838
1845	1,204,943	45,452,301	2,646,118

An interesting comparison is also made by Mr. Barton between the following description of property coming from the state of Ohio in 1835, then the only exporting state on the lakes, and the amount sent from Ohio and other states through the same channel for 1845.

Years.	Bbls. flour.	Bush. wheat.	Lbs. staves.
1835	86,233	98,071	2,565,272
1845	717,466	1,354,990	88,296,431

Years.	Bbls. provisions.	Bbls. ashes.	Lbs. wool.
1835	6,562	4,410	149,911
1845	68,000	34,602	2,957,761

"The total amount of flour and wheat exported from the same states in 1845, and which passed over the lakes, exceeded 1,500,000 barrels of flour."

Mr. Barton furnishes two very valuable tables, exhibiting the commerce of the lakes passing through Buffalo, for the years 1843, 1844 and 1845, up and down on the Erie canal, and adopts the following plan to arrive at the aggregate value of lake commerce. "The amount, as shown by the tables appended hereto, and what is done from the extensive mills at Black Rock, which joins this city, (Buffalo) in 1845, by an estimate made by the canal board of this state, from a system long adopted, and from experience found to give very near the true amount, is $28,000,000, add the commerce to and from this city (Buffalo), which never reaches the canal, and it will increase the sum $5,000,000 more, which amount is further to be increased by all the business delivered on and taken from the lakes by the various other canals and railroads named in this communication, and the very large amount of what may be termed intermediate commerce, between different ports of the lakes, which I put with great confidence, at an amount equal with that done at Buffalo; and to this must be added the amount done on lake Ontario, which I place at $15,000,000, and I arrive, without the fear of being refuted, at an amount of $81,000,000, without including one dollar of the immense sums of money carried over these lakes." Another view is in reference to tonnage. In 1843, the tonnage on the lakes was 60,000 tons, while in 1845, it numbered 80,000, a large increase for two years, and the opening of the Illinois canal will greatly increase that amount for many years.

The value of the up river trade is difficult to ascertain. A large proportion seeks the lakes by the various routes mentioned, and New Orleans by the rivers, and its value is thus commingled in the value of those trades. However, from the data we have, an approximate estimate may be made. The steamboat tonnage of the west, according to the official returns on the last day of September, 1842, was 126,278 tons, being divided as follows:

New Orleans	80,993
St. Louis	14,725
Cincinnati	12,025
Pittsburg	10,107
Louisville	4,618
Nashville	3,810

If we suppose this trade carried on by 630 steamboats, and an average of 20 trips per year, we have an amount of 2,525,560 tons, and add for flat boats, 500,000, making an aggregate of 3,000,000 tons.—Such might be the estimate for 1842, since which date the amount has been largely increased. By analyzing the amounts shipped on the canals to lake Erie, and the amounts received at New Orleans, the value of the up river trade will be shown to be near $65,000,000, of which $32,000,000 are sent to New Orleans, $23,000,000 to the lakes and $10,000,000 through Pennsylvania, Maryland and Virginia.

The *down* river trade may be estimated by the value of produce received at New Orleans, and our statistics are well prepared at this point. Taking the annual statement for the year ending August 31, 1845, prepared by the New Orleans price current, and we have the value of

Cotton estimated at	$33,716,256
Molasses	1,710,000
Sugar	10,265,750
Making an aggregate of	$45,692,006

and summing up the estimated value of the different divisions, we have for the

Lake trade	$25,000,000
Up river trade	65,000,000
Down river trade	45,700,000
On a total amount of	$135,700,000

or the above calculation may be shown in another manner. Value of

New Orleans trade	$80,000,000
New York and Erie canal	45,000,000
Pennsylvania, Maryland and Virginia.	10,000,000
	$135,000,000

It will be observed that the above estimate is but the value of produce shipped, and this is exchanged for nearly an equal amount of merchandize, thus making the entire value of the western trade at least $270,000,000. If such be even in the vicinity of truth at this time, how great will be its value in *ten, twenty, thirty* or *fifty* years? The western country now contains some ten millions of inhabitants, and the progress of population indicates the increase as follows:

Years.	East.	West.
1845	10,000,000	10,000,000
1855	11,630,000	17,360,000
1865	13,374,500	26,040,000
1875	14,711,950	36,456,000
1885	16,183,140	51,038,400
1895	17,801,454	71,453,760

I have now taken as concise a view as possible of the value of the western trade, and present it to the consideration of the people of Pennsylvania and the citizens of Philadelphia.

But connected with these calculations are presented some thoughts, partly noticed in my former article.

It is very evident that the city, or cities, which can secure a large portion of the western trade must prosper beyond their peers; and that cities unfavorably situated, must decrease. Trade is gregarious in its nature, and in the grand contest for superiority among the Atlantic cities, that city will be the empire that furnishes the best connection with the western country, considering facility of access from the whole west, *time, expense and safety.*

An interesting proof of this was given in an article I prepared for the Philadelphia Price Current some months since, in which a comparison was made of the value of the real and personal estate of New York and Boston, from the year 1825 to 1845, inclusive. From this table, it was evident that the valuation of real and personal estate was a sure index of the western facilities for each period, and furnished this fact, that from 1825 to 1841, New York increased at the rate of 9½ per cent. per annum; and from 1841 to 1845, decreased at the rate of 1½ per cent. per annum; while Boston, from 1841 to 1845, increased at the rate of 8 per cent. per annum; making a total gain of Boston over New York in four years of $50,000,000. Many causes operated to produce this result; but the main cause was the opening of the Western railroad, thus bringing western produce *direct* to Boston, and then making the exchange for merchandize. Thus will it operate with Philadelphia. The attraction of business is no longer a matter of speculation. It can be calculated with certainty. The American people have, to a great extent, placed their *ban* upon the construction of new canals. Railroads are now, and must be, the preferred carriers of freight. So evident is this, that though New York possesses the noblest line of canals, yet the many drawbacks connected therewith, have convinced her citizens of the importance of another continuous line of railroad to the lake. She is pushing forward the New York and Erie railroad to Dunkirk, expecting a continuation from thence to Detroit, and a connection with the great lines of railroads that will reticulate the great west.

Boston, by the Fitchburg, Rutland and Ogdensburg, and Champlain railroads, evinces the same feeling: likewise Baltimore, Richmond, and Charleston on the south. It is too evident that the Pennsylvania canal will not secure the trade of the west; and the *only* course left for Philadelphia, if she has any disposition to retain her present trade, or to increase it, is to secure a continuous railroad connection with Ohio.

We have already stated that Philadelphia possesses superior advantages, in manufacturing, over any other city. These advantages consist in

1st. Minimum cost of material.

2d. Minimum cost of subsistence.

3d. Minimum cost of power used, and

4th. Best connection with the consumers of her merchandize.

She is now in the position of Boston, prior to the construction of the Western railroad. Her goods are principally sent to New York for sale; and she is but the transit town. Bring produce here, and the exchange for merchandize will be made here. Commerce will follow, as commerce never leads.

The question now recurs, can Philadelphia, by building the Pennsylvania railroad, successfully compete with rival lines? When the cost of transportation is equal on any two lines between similar points, but one possessing the advantage of certainty of transit, saving of time, and available at all seasons, that line so located, must draw the greater amount of trade and travel.

To make the necessary comparison, we take three main points, viz.: Cleveland, Toledo, and Cincinnati; and the rival lines may be considered as

1st. Boston, Albany, Buffalo, and any point above named.

2d. New York, Albany, Buffalo, and any point above named.

3d. New York, Dunkirk, and any point above named.

I regret being unable to give as full an account of the charges between the different points as is desirable; but the items, as given, are sufficiently accurate to form a reliable basis of estimation. For the charges on the railroads, the rates of freight on the Western railroad, from Boston to Albany, 200 miles, have been adopted.

For the canal charges, I am indebted to an extensive forwarding house in Albany; and the rates, as given, are the low summer, and merely living rates. The charges fluctuate greatly on the canal and lakes: but the only safe basis, is the rate at which the business will secure responsible shippers.

The average rate of freight on the Western railroad is $2 75 per 2000 lbs. per 100 miles, or say 14 cts. per 100 lbs. per 100 miles; and the table will be as follows:

	Per 100 lbs.	Per ton.
From Boston to Cleveland	94 cts.	$18 80
" New York to Cleveland, (by canal and lake)	66	13 20
" New York to Cleveland, (by railroad and lake)	81	16 20
" Philadelphia to Cleveland, (by railroad)	64	12 80
" Boston to Toledo	97	19 40
" New York to Toledo (canal and lake)	69	13 80
" New York to Toledo, (N. Y. & Erie railroad and lake)	81	16 20
" Philadelphia to Toledo, (via Cleveland)	79	15 80
" Boston to Cincinnati, (via Toledo)	$1 63	32 60
" New York to Cincinnati, (via Toledo)	1 35	27 00
" New York to Cincinnati, (railroad and Toledo)	1 41	28 20
" Philadelphia to Cincinnati, (Pittsburg and river)	76	15 20

In the calculation, freight from Philadelphia to Toledo, 15 cts. per 100 lbs. is added from Cleveland to Toledo, which is undoubtedly high; but is the usual freight from Buffalo to any point on the lake.

With reference to Pittsburg, the rates are more in our favor, and likewise with Louisville and St. Louis, and intermediate points. The above table must be sufficient proof that the proposed line of railroad can compete with other lines, were they in all respects similar.

But here the still greater advantage is evident in favor of the Pennsylvania and Ohio line. If the Western railroad can carry at the above named freight with profit, which is proven by her great increase of business and large returns of profit, with grades of 85 feet, and the New York and Erie railroad with grades of 66 feet, the Pennsylvania railroad can certainly carry for the same rates, with no grade over 45 feet. Other reasons still favor this great line. It will be remembered, that there will be no transhipment between here and the lakes, while by either of the other routes, there must be two or more. The time on the Pennsylvania and Ohio line would be but 3 or 4 days for freight, while on the other lines it will be nearer two weeks, and in the spring and fall seasons much longer. The insurance will be saved, which now amounts to ¾ per cent. on the lake. Mr. Barton, in urging the necessity of good harbors on the lakes, writes, "The storms and tempests on these lakes are as violent as on the Atlantic; and the danger of navigating them is known and acknowledged by those who have tried both, to be equally as great, if not greater." Again, "The extremely boisterous weather last fall was very destructive to lives and vessels, amounting to, as nearly as a careful account can make it, sixty lives lost, and thirty-six vessels driven ashore, twenty of which became total wrecks; four foundered at sea, with entire loss of crews and cargoes; and producing a loss, in the aggregate, of property over two hundred thousand dollars. And it has suffered in losses, within the last five years, more than four hundred lives; and destruction and damage to steamboats, vessels, and cargoes, more than one million of dollars."

All this danger and expense will be avoided, and the merchant will be assured that his produce will reach the market, and that he will receive his merchandize as purchased.

This line will be available at all seasons; and the producer can take advantage of any rise in the eastern markets. By the aid of the magnectic telegraph, can dispose of his stock, through his factors east, on as favorable terms as those nearer the market, and can promise the delivery within 3 days. The effect will be exceedingly beneficial in a financial view: and had these lines been in operation last fall, would have saved factors in New York and Boston the heavy losses endured last spring.

We have already alluded to the fact, that the ports of Cleveland, Toledo, and Detroit, are open several weeks earlier than Dunkirk or Buffalo. The earliest spring markets are generally the best; and the effect would be, the forwarding of all the produce that could be collected, on this line, and to this market, where their spring purchases would be made; also relieving the western merchant from forcing every nerve, to forward his produce, prior to the closing of the New York canals in the fall, or at the first opening in the spring, and from the exorbitant charges for freight.

In comparing Cleveland and Toledo, or Cincinnati, as points, an undue advantage is given rival lines in this, that the location of the lines of railroad already mentioned, is through the heart of the producing country, being nearer the eastern market, thus saving the producers the expense of shipment to Cleveland, Toledo, or Cincinnati, and the freight on return merchandize. Along these lines of railroads, will be the true depots of produce; the other cities, the depots of trade coming from a distance.

All that trade now passing from the Ohio and Mississippi rivers, will thus be prevented from reaching the lakes, and will be brought direct to this city.

The winter trade of New Orleans is derived principally from the upper country, owing to the closing of northern canals, rivers, and lakes. This current of trade will be turned from on its present course. The injury to produce, in passing to and from New Orleans, is well known. Twenty per cent. will hardly cover losses from insurance, climate, damages, etc., etc.: and the higher prices east will certainly secure that trade. To secure this trade, the great efforts of New York and Boston are now mainly directed.

After th s hasty review, will you not confess, with me, our incapacity to make an estimate for the trade of the Pennsylvania railroad sufficiently largie and yet retaining some outward plausibility in ts, favor; but, for our present purpose, if we suppose the very low mark of 200,000 tons, we cannot err in being too high.

Another interesting point is now presented. The travel that will be secured to that road. The estimate that 800,000 persons crossed the mountains, and passed from north to south, and from the south to north, during the past year, is generally considered as nearly accurate. Of this amount, 200,000 passed over the lakes; the balance on the various lines south, and by sea, coming around the capes of Florida.

The following table, as furnished by Mr. Barton, is instructive on this point; and, for general information, I copy it. It contains the number of passengers going west, from Buffalo and other places:

Whole number of passengers leaving Buffalo	93,367
Taken on board at way ports	5,369
Total	98,736
Of these passengers, there were landed at	
Erie	4,130
Conneaut	2,106
Grand River	1,266
Cleveland	14,895
Huron	1,536
Sandusky	2,274
Toledo	9,935
Monroe	1,323
Detroit	20,636
Total number lake Erie	58,106
Mackinac	1,669
Sheboygan	405
Milwaukie	12,773
Racine	2,750
Southport	2,789
Chicago	20,244
Total upper lakes	40,630
Total number lake Erie and upper lakes	98,736

From this table, Cleveland, Toledo, Detroit, Milwaukie, and Chicago are evidently the points for collection of passengers.

The high rates of fare from this city to Charleston and New Orleans, force passengers up the Mississippi, or to take ship at New Orleans. We can hardly expect, for some years to come, that those rates can be sufficiently reduced to compete with the western waters. The great stream of travellers ascending the Mississippi and Ohio rivers, will form a point at Cincinnati; while from St. Louis comes another current; and the lines from the lakes give their increase. At every depot from St. Louis, we have an increase of travellers, bending their way east, on this grand line of railroads.

With a speed of from 20 to 30 miles an hour, no water communication can compete: and it must be that a large portion of the travel from east to west, and from west to east, will pass over this road. If the whole amount of travel is now 800,000, in 1850 it will be one million. How much of this travel, think you, will pass over the shortest, safest, and, counting time, the cheapest road? At the very lowest mark, we put 250,000. Bringing together these items, we may calculate the business of the Pennsylvania railroad, after its completion, say in 1850,

250,000 passengers, at $4 60, (2 cts. per mile)	$1,150,000
200,000 tons freight, at $6 44, ($2 80 per ton per 100 miles)	1,288,000
	2,438,000
Making a fair allowance for expenses	1,250,000
Will leave as a profit	1,188,000

Estimating the cost of the road at Mr. Schlatter's estimate, $9,496,709, will give a fraction over 12 per cent.

Here is left a large margin. The amounts of trade and travel may appear large; but a fair examination will sustain them. How great are the inducements to build this road to capitalists, and especially to the citizens of Philadelphia? Should she neglect so great a prize within her grasp, how low must be her fall!

Were the same within reach of Boston, her entire energies would be devoted to it; and it would be built, did it cost thrice the estimate. The property holders of Philadelphia could build the road; and though they sunk every dollar invested, would still be the gainers. But I have trespassed longer upon your patience and my own time than I anticipated, and, for a pardon, will promise never to commit a similar offence.

Yours, very truly, JOHN A. WRIGHT.

Philadelphia, Oct. 28, 1846.

The Hiwassee Railroad.

It will be remembered that a suit has been pending for some time, between the state of Tennessee and the Hiwassee railroad company. A late number of the Knoxville Register informs us that a decision has been obtained in the supreme court of Tennessee, from which the annexed extract is given.

It declares *void* the deed of trust executed some four or five years ago, conveying to trustees the assets of the road and its appurtenances, together with the claims on the state and individual stockholders, in satisfaction of the outstanding liabilities of the company. It also declares the liability of the state for the unpaid balance of her original subscription.

On the other hand, it enjoins the company from the further prosecution of the plan of erecting iron works and manufacturing iron, and from the further issue of scrip, declaring, however, that the scrip already issued constitutes an equitable lien upon the corporation. It declares further that, so far as arrearages are concerned, the state and the individual stockholders were on an equality in their payments, on the 3d of October, 1842, the state being considered to have fully paid up her half of the amount expended to that date. It also declares the notes executed to the several banks named, and all the other valid debts, to constitute a just charge against the company.

By this decree the Register says that much has been gained by the company, "in the restoration of its property and in the declaration of the liability of the state for the amount of her subscription remaining unpaid, while in the limitation of its privileges nothing has been lost which it would be of any material advantage to retain." Notwithstanding this decree, we regard it as very doubtful whether the legislature will consent to appropriate the "amount of the subscription remaining unpaid." For several sessions past we have noticed a strong spirit of opposition to any further appropriation on the part of the state, notwithstanding the justice of the case stares the members in the face.

Boston, Concord and Montreal Railroad.

A correspondent of the Boston Courier gives the annexed statement in relation to the progress of the road to Montreal, via Concord. The proprietors are making headway as rapidly as possible, and this route will prove a very important addition to the roads tending to the city of Boston, when it shall be completed. The proposed line is laid through a beautiful country, the business upon which must eventually be immense. The writer informs us that

Rapid progress continues to be made in the first division of this railroad between Concord, N. H., and Sanbornton bridge, a distance of 18 miles. The stone masonry of the bridge at North Concord is nearly half finished. The embankments on both sides the bridge are advancing across the plains on each side of the Merrimack, and the contractors have commenced work on several sections above, while considerable progress has been made in the cut at Northfield, and nearly all the masonry is now let.

The agent for construction, Mr. Clark, the originator of the Concord railroad, has availed of the delay in beginning this enterprize, to make great improvements in the route, and a line has been adopted which offers greater facilities than any yet selected in New England. The earthwork on this line averages less than 26,000 yards per mile, and the average rate of the contracts and bids is 13¼ cents per yard. The whole amount of earth to be removed is but 466,000 yards. No ledge or indications of ledge to the extent of one thousand yards appears on the line.

The masonry, including the piers and abutments for the bridge over the Merrimack, average less than $800 per mile.

The engineer's estimate for the bridge was $20,000; the actual contracts are below $13,000, of which, more than half is payable in stock. Chestnut, suitable for sleepers, is abundant, and may be obtained at low rates. In view of this fact, and of recent experiments which show that American rails, from charcoal iron, are one-third stronger than the English, and also demonstrates that a rail of forty pounds to the yard, laid on sleepers two feet apart, is equal to a fifty pound rail on bearings three feet apart—the space on the Lowell, Worcester and Providence railroads. It is proposed to avail of this experience, and lay down a track with 2500 sleepers to the mile and a rail of American iron, weighing from forty to forty-five pounds to the yard.

The depots will be of the cheapest class, until the road reaches Meredith and Plymouth.

Beneath is the last estimate of the cost of the first division of this railroad.

Earth work, 18 miles, 466,000 yards, at 13¼	$61,846
Bridge masonry and frame work and piling.	13,000
Other masonry	12,400
Land and land damages	8,000
	$95,246
Contingencies and engineering	9,524
Fencing	5,000
Depots and tanks	6,000
Track	108,000
Total	$224,770

The aggregate is less than $12,500 per mile, and when cars and engines are added, the road must be the cheapest in the country. The stock of this railroad is held principally in New Hampshire, by parties on the line of the road, and bids fair to be eminently productive from the light cost of the line, and the large travel between Boston, Meredith, the White Mountains, and upper country. Its prospects are quite as encouraging as those of the Concord when first commenced.

Notice to Contractors.

Cleveland, Columbus, and Cincinnati Railroad.—By an advertisement in this number of the Journal, it appears that the board of directors of this important road have so far matured their plans, as to advertise for proposals to build *forty* miles. We extract from the Plain Dealer as follows:—

"The money has been subscribed, the route surveyed, and the right of way secured; and now the question is, who shall build it? Forty miles only is proposed to be let at present, because the directors do not choose to incur liabilities one cent beyond their actual available means to pay. This completed, and there will be funds enough seeking investment in its continuance.

"There will be nothing to hinder the work commencing by the first of December. The winter will be an excellent season to get out the timber and grade the road. It is seldom we have frosts to impede such a work. Besides, labor is much cheaper in the winter than in summer.

"We have these advantages over the New York and New England railways: First, we have a much more level country; second, a lighter soil; third, a greater supply of timber; fourth, labor cheaper; and, fifth, we can build railroads and use them all seasons of the year. When once in operation, no snow banks will impede the locomotive.

"We look with entire confidence and certainty to the completion of this road, and that too in a very short space of time. The starting point is now gained; the end is sure to follow."

Miscellaneous Items.

A Good Beginning.—We observe by the Montreal papers, that the first twenty miles of the St. Lawrence and Atlantic railroad—from Montreal—have been put under contract. Before winter sets in, the grading of both sides of the great line from the Atlantic to the St. Lawrence, will have been commenced. An excellent spirit is evinced, and a determination is apparent on the part of those having the management of this important route, to push the matter forward as rapidly as may be practicable, towards a speedy completion.

Ohio Railroads.—We learn from the Cincinnati Chronicle, that the receipts upon the "Mad river railroad are already at the rate of $80,000 per annum. The gross receipts upon the Mad river and Little Miami are now about $200,000 per annum.

A Monster Chimney.—An enormous chimney has just been erected at the carpet manufactory in Lowell, (Mass.) It is intended to carry off the smoke of 24 steam boilers, and according to the Courier, is of the following dimensions:

"It is 12 feet 9 inches square at the base, and 7 at the top, and its height is about 120 feet. It is calculated that over 150,000 brick have been use in its construction, the weight of which, together with the mortar, is between 500 and 600 tons."

Worcester and Nashua Railroad.—The directors of this road had a meeting last week and chose Wm. A. Wheeler, Esq., of this town, to superintend the construction of the road, and Joseph F. Miller, Esq., engineer. The directors have been fortunate in securing the services of Mr. Wheeler. He is one of our most enterprizing and successful business men, energetic and persevering, and will see that every dollar of expense tells for the benefit of the company. It is said the location of the road will be immediately settled in substantial conformity to the surveys already made, and its construction at once commenced.

Connecticut River Railroad.—It is stated that the bridge across Deerfield river will be completed in ten days or a fortnight, and that the cars will run to Greenfield about the 15th

of November. Two new and heavy engines have been added to the road, making the whole number six.

Influence of Railroads on the Weather.—The German Schnellpost says that the well known natural philosopher, Dr. August, has made a communication in a Berlin paper, in which he states that when an extended portion of the earth's surface is brought by a net of railroad tracks into connection of electrical conductors, the accumulation of electricity in the lower part of the atmosphere is prevented, as the iron tracks effect a constant electrical equilibrium between the remote regions. By this means a violent storm is rendered unlikely, and if one should arise, it would undergo a considerable diminution. The doctor states it as a fact, that since Berlin has become the focus of several railroads, there have been no violent storms; and all that have risen here, had a rapid and general termination.

Railroads.—The constant increase of travelling and business in our country, must make investments in railroads amongst the best if not *the best* that can be made. Railroads that a few years ago paid nothing, are now doing a good business, while those that have paid are paying more.

The Western railroad, which connects the cities of Boston and Albany, did not, if we re collect right, the first year, pay its running expenses. But now it pays dividends, and its stock is held at par.

The Housatonic road, which was bankrupt and to pay its debts, the private property of the citizens of Bridgeport was threatened with sale, has so recovered from its embarrassment that its directors are now engaged in laying it with a T rail.

The New York and Erie and the Harlem roads, the stock of which were long a drug in the market, are now looking up, and promise to be profitable.

But let the Hudson river railroad be made and it will soon be equal to the best in paying interest to its stockholders. The route through which it will pass—the lovely, fruitful, and wealthy valley of the Hudson—the immense business it must ever command because its grades will be better than any road that can be laid between the two cities, added to the large way business which it must have will give it advantages which can never be overcome.—*Po'keepsie Telegraph.*

Steam Packets on the Canal.—The last number of the Pottsville Journal says, that Mr. James Downey, of that borough, will commence running two steamboats between Reading and Philadelphia, next Monday, for freight and passengers. The steamboats are built of iron, and furnished with berths, cooking apparatus, etc. It is his intention to run to Pottsville, as soon as the canal is finished. The boats are of the capacity of 70 tons. He contemplates making the trip from Pottsville to Philadelphia in 20 hours. The appearance of these boats upon our waters is anxiously looked for, and the novelty of the thing will doubtless give them plenty of passengers for a while; but we think the fare will have to be very low, for the canal to begin to compete with the railroad in the transportation of passengers. People like to get to their journey's end as soon as possible now-a-days, and would not endure the slow movements of a canal boat, unless they could save a great deal in the fare.

The Telegraph.—We understand, says the Philadelphia Gazette, that the magnetic telegraph company have agreed to extend another wire from this city to Baltimore, and also another range of poles for two wires from this city to New York, the work to be commenced immediately, and to be paid for from the profits of the company. This last conclusion denotes the successful operation of the wonderful work, and is an evidence of the growing utility and general appreciation of the lines.

Central Railroad.—The Detroit Free Press says that this important work passed into the hands of the company chartered, by the Michigan legislature last winter. The gentlemen composing the company embrace some of the most intelligent and enterprizing business men in New York and New England, and under their management the road will no doubt be one of the best and most prosperous in the country.

The receipts upon this road, in the month of August last, were as follows:

Received from passengers..	$11,259 49	
" for freight.....	11,151 72	—$22,414 21
" in the corresponding time, 1845.		14,094 93

Iron wire tinned and galvanized, so as to prevent rust, is an improvement which has been patented in England, and is about to be introduced in the construction of the magnetic telegraph in this country.

Railroads in India.—The construction of railroads in *India* is becoming a topic of the greatest interest there. One road is in contemplation from Calcutta to Mirzapoor, a distance of 900 miles, with branches 200 miles long, diverging in different directions. Other railroads are in contemplation in different parts of India. The immense population of India will render them immediately profitable.

A magnificent viaduct has just been completed near Breslau, Germany, intended to carry the railway of upper Silesia. It is 88 feet in height, having 38 arches, and the cost of which has been nearly £700,000.

The Georgia Iron Works.—A writer in the Atlanta *Enterprize*, gives the following passing glance at the great enterprize of Messrs, Mark A. Cooper, and others connected with the manufacture of iron in Georgia: The writer says:

A visit to the iron works on the Eltowa must not be forgotten. Whether we visit this place for the purpose of viewing the infant efforts of the yet to be immense works of Georgia, I mean the iron manufactures, or whether we visit this place for the purpose of viewing the works of nature, w cannot fail to be interested. From some ten thousand miles of travel, never do I recollect to have seen in the same space more of the romantic, picturesque and wild works of nature, than are found thrown together in the immediate vicinity of these iron works. They might well be the subject of a long letter, or a field for an artist's pencil, but I pass on to the improvements and works of man. This establishment is now cwned and carried on under the firm of Cooper, Stroup & Whyley, Mr. Stroup commenced operations here about ten years ago. And his son ——— Stroup, pursued a policy of improvement and enlargement of the concern with that indefatigable industry and perseverance which is always necessary to the achievement of a noble work. Mark A. Cooper purchased an interest in it about two years ago, and has since that time devoted to the improvement of the concern his well known financial and business talents.

Mr. Whyley, a capitalist in New York, has lately become an owner, thereby constituting a firm sufficiently strong to put into operation all works, or additional works necessary to complete success. At the present they have one permanent dam across the Etowa, and, a few rods above, are completing another. And so great is the fall in the stream, that two more dams can be thrown across at a short distance above. Their furnaces and forges already turn out the rise of 100 tons of iron per month. To these I understand they intend adding a rolling mill and nail factory, and will probably much enlarge the entire establishment. Among other improvements they are constructing a flour mill on the most improved principles and in the most substantial manner. It is to contain four runners of stones, and will be able to grind 300 bushels of wheat per day.

The aggregate receipts of the Norwich and Worcester railroad company for September including the earnings of the boats, are something over $55,000. The official report has not yet been received.

Auburn and Rochester Railroad.—We understand that William Wiley, Esq., has been appointed superintendent of the above road, in place of John W. Brooks, Esq., appointed to take charge of the Central railroad in Michigan.

Mr. Brooks has long been most favorably known to the travelling community in this section, and his departure will be greatly regretted. But in Mr. Wiley, the public will find a competent, gentlemanly and obliging successor.

An Iron Steamship.—The U. S. iron steamship Allegheny, now building at Pittsburg, is nearly completed. She is built entirely of iron, excepting the planking on the gun deck—will be bark rigged, and have an armament of four sixty-four pounders, mounted on pivots, weighing 1,000 pounds each. She is also pierced for a side battery of six thirty-two pounders, which can be put on at pleasure.—Her length of deck is 135 feet, and her keel 170 feet, length over all 200 feet, and her tonnage, carpenter's measurement, 1,156.—She will be propelled with Lieut. Hunter's submerged horizontal propellers. Everything about her is of Pittsburg manufacture.

Wabash and Erie Canal.—The tolls on the Indiana, Wabash and Erie canal, so far this year, show a considerable increase over the corresponding months in 1845. At Lafayette, during March, April, May, June and July, 1845, the aggregate tolls amounted to $14,599 63. During the same months of 1846, they are given in the Lafayette Journal at $28,241 80, being an increase over last year of nearly 100 per cent. The tolls this year on the finished portion of the canal, it is said, will amount to about $100,000.

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 23 Chambers street

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address
JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

A. & G. RALSTON & CO., NO. 4 South Front St., Philadelphia, Pa.
Have now on hand, for sale, Railroad Iron, viz:
180 tons 2½ x ½ inch Flat Punched Rails, 20 ft. long.
25 " 2½ x ½ " Flange Iron Rails.
75 " 1 x ½ " Flat Punched Bars for Drafts in Mines. A full assortment of Railroad Spikes, Boat and Ship Spikes. They are prepared to execute orders for every description of Railroad Iron and Fixtures. 1tf

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.
ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

PATENT INDESTRUCTIBLE WATER Pipes. The subscribers continue to manufacture the above PIPES, of all the sizes and strength required for City or Country use, and would invite individuals or companies to examine its merits.—This pipe, unlike cast iron and lead, imparts neither color, oxide or taste, being formed of strongly riveted sheet iron, and evenly lined on the inside with hydraulic cement. While in the process of laying, it has a thick covering externally of the same—thus forming nature's own conduit of stone. The iron being thoroughly enclosed on both sides with cement, precludes the possibility of rust or decay, and renders the pipe truly *indestructible*. The prices are less than those of iron or lead. We also manufacture Basons and D. Traps, for Water Closets, on a new principle, which we wish the public to examine at 112 Fulton street, New York.
28tf J. BALL & CO.

TO LOCOMOTIVE AND MARINE ENGINE Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by
MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 1tf

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

RAILROAD IRON.—THE SUBSCRIBER'S New Rail Iron Mill at Phœnixville, Pa., is expected to be ready to go into operation by the 1st of September, and will be capable of turning out 30 to 40 tons or finished Rails per day. They are now prepared to receive orders to that extent, deliverable after the 1st of Octobet next, for heavy rails of any pattern now in use, equal in quality and finish to best imported.

PIG IRON.—They are also receiving weekly 150 to 200 tons of No. 1 Phœnix Foundry Iron, well adapted for light castings.
REEVES, BUCK & CO,
45 North Water St., Philadelphia,
or by their Agent, ROBT. NICHOLS,
28tf 79 Water St., New York.

THE SUBSCRIBERS, AGENTS, FOR the sale of
Codorus,
Glendon,
Spring Mill and
Valley,
} Pig Iron.

Have now a supply, and respectfully solicit the patronage of persons engaged in the making of Machinery, for which purpose the above makes of Pig Iron are particularly adapted.

They are also sole Agents for Watson's celebrated Fire Bricks and prepared Kaolin or Fire Clay, orders for which are promptly supplied.
SAM'L. KIMBER, & CO.,
59 North Wharves,
Jan. 14, 1846. [1y4] *Philadelphia, Pa.*

RAY'S EQUALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New

York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.
[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL,
Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,
Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.
Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH,
1y19 Sup't Motive Power.

RICH & CO'S IMPROVED PATENT SALAMANDER SAFES.

Warranted free from dampness, as well as fire and thief proof.

Particular attention is invited to the following certificates, which speak for themselves:

TEST No. 10.

Certificate from Mr. Silas C. Field, of Vicksburgh, Mississippi.

On the morning of the 14th ult., the store owned and occupied by me in this city, was, with its contents, entirely consumed by fire. My stock of goods consisted of oil, rosin, lard, pork, sugar, molasses, liquors, and other articles of a combustible nature, in the midst of which was one of Rich's Improved Patent Salamander Safes, which I purchased last October of Mr. Isaac Bridge, New Orleans, and which contained my books and papers. This safe was red hot, and did not cool sufficiently to be opened until 16 hours after it was taken from the ruins. At the expiration of that time it was unlocked, when its contents proved to be entirely uninjured, and not even discolored. I deem this test sufficient to show that the high reputation enjoyed by Rich's Safes is well merited. S. C. FIELD.

Vicksburgh, Miss., March 9th, 1846.

Certificate from Judge Battaile, of Benton, Mississippi.

In October last I purchased one of Rich's Improved Salamander Safes, which was in the fire at the burning of my law office, and several adjoining buildings in this place, on the 17th of November last, at about half-past one o'clock A. M. of that day. The building was entirely consumed; and I take pleasure in stating that my papers in said safe were preserved without injury. A receipt book which was in said safe, had the glue drawn out of its leather back by the heat, and the back broken; but the leaves of the book, and the writing thereon, were entirely uninjured; and some of the writing which was of blue ink, was also left wholly uneffaced and not in the least faded. Said safe was by the fire heated perfectly red hot, and I do not hesitate to say, that said safe is a perfect security against fire. But the safe tumbled over during the fire, and being heated red hot, the outer sheeting of the door became pressed in, and the bolts of the lock bent, so that it could not be unlocked, and I had to have it broken open. JOHN BATTAILE.

Benton, Miss., December 27, 1845.

Still other Tests in the Great Fire of July 19, 1845.

The undersigned purchased of A. S. Martin, No. 138½ Water street, one of Rich's Improved Patent Salamander Safes, which was in our store, No. 54 Exchange place. The store was entirely consumed in the great conflagration on the morning of the 19th inst. The safe was taken from the ruins 52 hours after, and on opening it, the books and papers were found entirely uninjured by fire, and only slightly wet—the leather on some of the books was parched by the extreme heat. RICHARDS & CRONKHITE.

New York, 21st July, 1845.

One of Rich's Improved Salamander Safes, which I purchased on the 2d of June last of A. S. Marvin, 138½ Water street, agent for the manufacturer, was exposed to the most intense heat during the late dreadful conflagration. The store which I occupied, No. 46 Broad street, was entirely consumed; the safe fell from the 2d story, about 15 feet, into the cellar, and remained there 14 hours, and when found, I am told, and from its appearance afterwards, should judge that it had been heated to a red heat. On opening it, the books and papers were found not to have been touched by fire. I deem this ordeal sufficient to confirm fully the reputation that Rich's safe has already obtained for preserving its contents against all hazards. (Signed,)

WM. BLOODGOOD.

New York, 21st July, 1845.

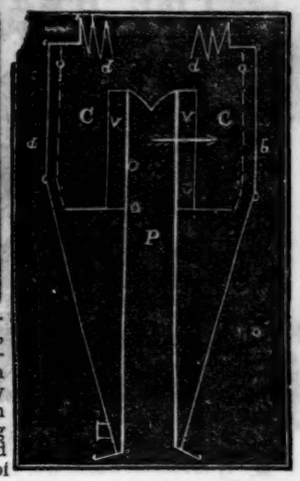
The above safes are finished in the neatest manner, and can be made to order at short notice, of any size and pattern, and fitted to contain plate, jewelry, etc. Prices from $50 to $500 each. For sale by

A. S. MARVIN, General Agent,
138½ Water st., N. Y.

Also by Isaac Bridge 76 Magazine street, New Orleans.

Also by Lewis M Hatch, 120 Meeting street Charleston, S. C. 16 tf

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.



TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved SPARK ARRESTER, recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger and freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April* 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja45

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co, Boston. ja45

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
a45 Paterson, N. J., or 60 Wall street, N. York.

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York, will be punctually attended to.

HENRY BURDEN, *Agent.*

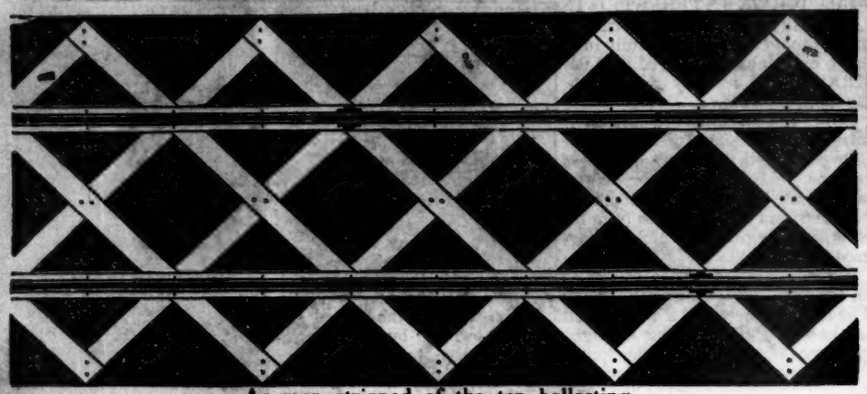
Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

*** Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufcturing so as to keep pace with the daily increasing demand. ja45

DAVENPORT & BRIDGES CONTINUE to Manufacture to Order, at their Works, in Cambridgeport, Mass., Passenger and Freight Cars of every description, and of the most improved pattern. They also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices. All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—coaches pass every fifteen minutes. 1y1

THE HERRON RAILWAY TRACK,



As seen stripped of the top ballasting

THE UNDERSIGNED RESPECTFULLY invites the attention of Engineers, and Railroad Companies, to some highly important improvements he has recently made in the Herron system of Railway structure. These improvements enable him to effect a very large reduction in the quantity of Timber, and cost of construction, without impairing the strength of the Track, or its powers of resisting frost, while they secure additional features of excellence in the Drainage and facility of making Repairs.

The above cut represents the "Herron Track" as it is laid on the Philadelphia and Reading, and on the Baltimore and Susquehanna Railroads. The intersection of the sills of the trellis are 5 feet from centre to centre, while in the new construction they are only 2½ feet. This renders the string piece unnecessary, thus removing the only objectionable feature found in the Track.

The result of experience has proved that all Tracks constructed with longitudinal timbers, such as mud sills, and more especially, the continuous bearing string pieces retain the rain water that falls between the Rails, which, being thus confined, settles along those timbers, and accumulating in quantity flows rapidly along them on the descending grades, washing out the earth from under the timber, and frequently causing large breaches in the embankments of the road. Whereas all water intercepted by the oblique sills of the trellis, is discharged immediately into the side ditches.

In the 5 foot plan, the Track occupies a Road bed nearly 11 feet wide, while the new construction takes but 8 feet; the timber being more concentrated under the Rails. A block of hard wood, about 2 feet long and 15 inches wide, is introduced into a square of the trellis for the purpose of giving an additional, and effectual support to the joints of the Rails, which rest upon it. Should these joint blocks become chafed and worn by the working, and imbedding of the chairs, as is now the case on all Railroads, they can be readily replaced without any derangement of the timbers less liable to wear.

The following is a general estimate of its cost near the seaboard. In the interior it will be considerably less.

ESTIMATE OF THE PROBABLE COST OF ONE MILE.

4,224 Timbers, 11 ft. long, 3 x 6 inches = 68,696 ft. b.m., at $10 =	$686 96
587 Oak joint blocks 2 ft. x 3 x 15 in. = 4,403 ft. b.m., at $13 =	57 24
13,000 Spikes = 2,250 lbs. at 4½ cts	101 25
Workmanship free of patent charge	600 00
Cost of one mile including the laying of the Rail	$1,445 45

He has made other important improvements, which will be shown in properly proportioned models, that give a much better idea of the great strength of the Track than a drawing will do.

Sales of the Patent right to all the distant States will be made on liberal terms.

JAMES HERRON.
Civil Engineer and Patentee.
No. 277 South Tenth St., Philadelphia. 33tf

ENGLISH ATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4½	13	5	10	24	–	50	15-16	20
13	3½	8	3	8½	16	–	27	11-16	13½
14	3½	6	11	7½	12	8	17	9-16	10½
15	2½	5	2	6½	9	4	13½	1-2	7½
16	2½	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 cwt. for every lb. weight per fathom, so that a rope weighing 5 lbs. per fathom would safely lift 3360 lbs., and so on in proportion. 1y24

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.

No 23 Pear street, below Walnut,
1y10 near Third, Philadelphia.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
1y25 28 Platt street, New York.

ENGINEERS and MACHINISTS.

THOMAS PROSSER, 28 Platt St. N. Y. (*See Adv.*)
J. F. WINSLOW, Albany Iron and Nail Works, Troy, N. Y. (*See Adv.*)
TROY IRON AND NAIL FACTORY, H. Burden, Agent. (*See Adv.*)
ROGERS, KETCHUM & GROSVENOR, Patterson, N. J. (*See Adv.*)
S. VAIL, Speedwell Iron Works, near Morristown, N. J. (*See Adv.*)
NORRIS, BROTHERS, Philadelphia Pa. (*See adv.*)
FRENCH & BAIRD, Philadelphia. (*See Adv.*)
NEWCASTLE MANUFACTURING COMPANY, Newcastle, Del. (*See Adv.*)
ROSS WINANS, Baltimore, Md.
CYRUS ALGER & Co., South Boston Iron Co.
SETH ADAMS, Engineer, South Boston.
STILLMAN, ALLEN & Co., N. Y.
JAS. P. ALLAIRE, N. Y.
PHŒNIX FOUNDRY, N. Y.
ANDREW MENEELY, West Troy.
JOHN F. STARR, Philadelphia, Pa.
MERRICK & TOWNE, do.
HINCKLEY & DRURY, Boston.
C. C. ALGER, Stockbridge Iron Works Stockbridge, Mass.

THE AMERICAN RAILROAD JOURNAL is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

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